

CRPL-F208 PART A

FOR OFFICIAL USE

National Bureau of Standards  
Library, N.W. Bldg

JAN 10 1961

Reference book not to be  
taken from the library.

PART A  
IONOSPHERIC DATA

ISSUED  
DECEMBER 1961

U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS  
CENTRAL RADIO PROPAGATION LABORATORY  
BOULDER, COLORADO



IONOSPHERIC DATA

CONTENTS

	<u>Page</u>
Symbols, Terminology, Conventions . . . . .	ii
World-Wide Sources of Ionospheric Data. . . . .	v
Tabulations of Electron Density Data. . . . .	viii
Tables of Ionospheric Data . . . . .	1
Graphs of Ionospheric Data . . . . .	13
Index of Tables and Graphs of Ionospheric Data in CRPL-F208 (Part A). . . . .	47
Index of Ionospheric Data Published in 1961 (CRPL-F197(A) through F208(A)) . . . . .	51

## SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.  
(2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.



b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

To indicate further in a general manner the relative reliability of the data, for the F2 layer, h'F or foEs, if the count is from five to nine, or, for all layers, if more than half of the data used to compute the medians are doubtful (either doubtful or interpolated), the median is enclosed in parentheses. Medians are computed for less than five values for foF2 only.

Ordinarily, a blank space in the fEs or foEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F2 or h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

There is no indication on the graphs of the relative reliability of the observed data; it is necessary to consult the tables for such information.

The tables may contain median values of either foEs or fEs. The graph of median Es corresponds to the table. Percentage curves of fEs are estimated from values of foEs when necessary.

The latest available information follows concerning the smoothed observed Zürich numbers beginning with the minimum of April 1954. Final numbers are listed through June 1960.

#### Smoothed Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	108	102	97	93	87	83
1961	79	74	68	63	59							

## WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 66 and figures 1 to 132 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:  
Buenos Aires, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the  
Commonwealth Observatory:  
Brisbane, Australia  
Hobart, Tasmania  
Townsville, Australia

Australian Department of National Development, Bureau of Mineral  
Resources, Geology and Geophysics:  
Mundaring, Western Australia

University of Graz:  
Graz, Austria

Belgian Royal Meteorological Institute:  
Dourbes, Belgium

Universidad Mayor de San Andres:  
La Paz, Bolivia

Escola Politecnica, University of Sao Paulo:  
Sao Paulo, Brazil

British Department of Scientific and Industrial Research, Radio  
Research Board:  
Ibadan, Nigeria (University College of Ibadan)  
Singapore, British Malaya  
Slough, England

Defence Research Board, Canada:  
Churchill, Canada  
Ottawa, Canada  
Resolute Bay, Canada  
St. John's, Newfoundland  
Winnipeg, Canada

Universidad de Concepcion:  
Concepcion, Chile

Radio Wave Research Laboratories, National Taiwan University, Taipei,  
Formosa, China:  
Formosa, China

Czechoslovak Academy of Sciences:  
Pruhonice, Czechoslovakia

General Direction of Posts and Telegraphs, Helsinki, Finland:  
Nurmijarvi, Finland

The Finnish Academy of Sciences and Letters:  
Sodankyla, Finland

Heinrich Hertz Institute, German Academy of Sciences, Berlin:  
Juliusruh/Rügen, Germany

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover,  
Germany:  
Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:  
De Bilt, Holland

National Institute of Geophysics, City University, Rome, Italy:  
Rome, Italy

Ministry of Postal Services, Radio Research Laboratories, Tokyo,  
Japan:  
Akita, Japan  
Tokyo (Kokubunji), Japan  
Wakkanai, Japan  
Yamagawa, Japan

Christchurch Geophysical Observatory, New Zealand Department of  
Scientific and Industrial Research:  
Christchurch, New Zealand

Norwegian Defence Research Establishment, Kjeller per Lillestrom,  
Norway:  
Tromso, Norway

Telecommunication Administration, Oslo, Norway:  
Svalbard, Norway

Manila Observatory:  
Baguio, P. I.

South African Council for Scientific and Industrial Research:

Capetown, Union of South Africa

Johannesburg, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:

Kiruna, Sweden

Lycksele, Sweden

Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:

Lulea, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:

Sottens, Switzerland

United States Army Signal Corps:

White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):

Byrd Station, Antarctica

Huancayo, Peru (Instituto Geofisico de Huancayo)

Maui, Hawaii

Talara, Peru (Instituto Geofisico de Huancayo)

Washington, D. C.

## TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by several stations associated with CRPL. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed by Dr. H. H. Howe for a CDC-1604 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification KP	(Alphabetic)	A standard scaling letter qualifying the observation when necessary. The standard Kp magnetic index, to one digit.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is 4+ or less. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, and the mean value of Kp are given for each hour.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.\* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

\*See Wright, J. W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65 pp 185-191.

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 AUG 1961												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	A3	A3	A1	A1	A1	1	R1	1	1	A1	A1	A1
HMIN	259	246	212	220		229		115	108			
SCAT	39.5	31.2	36.7	30.9		45.6		59.9	55.0			
HMAXF	160	322	288	286		314		308	291			
SUMAX	369	360	297	250		114		360	550			
KM												
370	666											
360	666											
350	655											
340	670											
330	669	846										
320	499	845				192						
310	408	816				192		334				
300	282	730				187		332	567			
290	176	634	621	607		177		326	567			
280	97.7	469	614	607		165		315	561			
270	43.5	232	585	566		148		298	546			
260	12.4	99.8	533	503		124		280	522			
250		33.3	450	406		93.2		261	487			
240			346	261		55.6		241	448			
230			193	98.0		12.4		222	405			
220			68.3	12.4				204	359			
210								190	313			
200								174	270			
190								150	234			
180								117	205			
170								85.5	176			
160								72.0	144			
150								67.2	120			
140								64.5	109			
130								62.9	103			
120								32.8	100			
110									62.1			

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 1 AUG 1961												
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	A1	A1	A2	A2	A2	A3	A3	A3	5	5	5	6
HMIN									228	249	259	300
SCAT									47.1	54.0	46.4	50.6
HMAXF									322	353	361	399
SUMAX									471	490	415	385
KM												
400												591
390												586
380												571
370												563
360										714	651	504
350										713	642	449
340										704	618	379
330										782	682	578
320										782	647	526
310										770	602	462
300										741	538	388
290										694	455	299
280										628	359	179
270										538	251	69.1
260										426	109	12.4
250										272	12.4	
240										103		
230										20.6		

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 AUG 1961												
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	6	A6	A6	A6	A6	4	94	A4	A4	A4	A4	A4
HMIN	276	270	216	279	257	329		108				
SCAT	43.3	41.8	35.6	42.3	45.6	51.1		37.5				
HMAXF	170	348	286	372	369	448		258				
SUMAX	354	366	243	208	256	247		312				
KM												
450						342						
440						340						
430						331						
420						316						
410						294						
400						268						
390						237						
380						199						
370	621			366	383	157						
360	614			359	380	112						
350	590	714		340	367	73.8						
340	550	707		314	344	41.8						
330	489	681		274	316	12.4						
320	405	634		224	280							
310	309	567		160	238							
300	191	454		95.6	192							
290	86.4	288		567	49.0	144						
280	27.8	127	563	12.4	94.3							
270		12.4	530		53.3							
260			497		19.3			471				
250			410					466				
240			267					445				
230			100					406				
220			29.4					353				
210								279				
200								206				
190								160				
180								134				
170								116				
160								101				
150								87.7				
140								76.1				
130								67.0				
120								62.6				
110								28.9				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO 60 W 2 AUG 1961												
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	A4	A4	A3	A3	3	3	3	A3	3	3	A3	4
HMIN					109	108	109	108	252	229	229	279
SCAT					68.1	47.0	55.1	48.3	50.7	39.8	49.2	49.9
HMAXF					306	286	304	296	364	322	334	385
SUMAX					784	535	522	449	429	316	251	227
KM												
390												337
380												336
370										621		329
360										620		316
350										609		295
340										586		392
330										548	577	392
320										504	577	384
310					740		493	524		442	565	369
300					739		493	524		370	533	346
290					731	564	485	522		290	486	314
280					714	562	469	510		208	417	268
270					690	548	445	484		114	335	212
260					665	521	413	451		49.1	235	143
250					615	481	374	407			138	83.1
240					544	426	333	356			63.0	42.2
230					454	367	295	295			12.4	12.4
220					371	314	263	238				
210					315	274	237	197				
200					281	249	220	170				
190					264	234	206	150				
180					254	223	190	131				
170					242	215	172	113				
160					222	204	152	94.2				
150					196	187	135	79.6				
140					168	166	120	71.8				
130					151	144	107	67.9				
120					144	131	99.7	65.8				
110					33.0	18.1	39.4	30.1				



## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 AUG 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

3 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>1</sub> KMN	A3	A3	3	3	3	A4	A4	A4	5	A5	A5	F4
H <sub>1</sub> MIN			108	108	107				208	239	248	279
5CAT			74.7	66.9	69.5				53.0	46.6	51.2	55.2
HMAXF			311	308	320				315	349	354	390
SHMAX			679	628	624				422	305	323	366
KW												
390												517
380												513
370												500
360												479
350											491	479
340											463	491
330											458	482
320											443	465
310											416	436
300			531		471				613	416	436	303
290			531	515	469				612	382	400	208
280			529	513	461				601	338	347	115
270			521	505	449				579	285	282	53.5
260			509	492	430				546	226	205	12.4
250			492	474	409				502	163	112	
240			474	451	384				444	92.0	54.6	
230			441	418	358				373	44.0	17.2	
220			402	380	333				286	12.4		
210			363	344	310				179			
200			327	311	290				80.6			
190			301	284	274				20.5			
180			282	267	261							
170			269	255	249							
160			261	246	237							
150			253	237	223							
140			244	227	206							
130			224	204	182							
120			196	172	155							
110			175	153	135							
100			164	145	126							
90			53.6	54.3	52.0							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O <sub>3</sub> KP	A4	A4	A4	A4	A4	A3		A3	A3	A3	A3	A3
HMIN	259	264	220	219	264	230						
SCAT	47.9	51.0	44.9	51.8	48.4	66.6						
HMAXF	368	367	323	337	350	356						
SHMAX	308	356	316	302	274	303						
FM												
370	471	539										
360	468	537			471	368						
350	455	525			471	367						
340	430	502		422	466	362						
330	307	468	529	420	451	353						
320	352	427	528	411	425	338						
310	298	375	518	392	390	322						
300	237	306	492	368	339	300						
290	158	203	456	135	260	268						
280	92.6	103	401	294	129	227						
270	44.9	35.1	333	248	38.1	180						
260	12.4		248	199		130						
250			154	141		82.1						
240			80.8	82.3		40.3						
230			40.2	41.8		3.9						
220			3.1	12.4								

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

4 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QKP	A3	B3	3		A3	A3	2	82	1		A1	A2
HMIN			108				107	109	200	198	233	254
SCAT			41.8				40.7	42.6	63.6	52.2	44.4	39.3
HMAXF			313				291	277	342	329	344	338
SHMAXF			1577				833	672	598	401	295	214
KW												
350									645		471	
340									645		470	411
330									639	559	460	406
320			2155						625	555	437	358
310			2152						603	541	402	388
300			2104				1298		570	515	357	312
290			1993				1298		536	481	298	249
280			1820				1275	1070	499	433	233	172
270			1576				1213	1063	456	372	161	80.9
260			1274				1112	1078	407	304	99.1	32.9
250			965				962	932	353	229	56.4	
240			711				756	869	298	157	25.6	
230			535				556	748	236	101		
220			423				375	594	169	63.1		
210			356				248	420	96.4	36.7		
200			319				190	260	12.4	12.4		
190			297				160	163				
180			283				141	104				
170			276				123	75.1				
160			265				107	58.7				
150			243				93.3	49.0				
140			224				82.8	43.1				
130			177				73.9	40.1				
120			160				69.3	37.9				
110			81.6				43.2	12.4				



## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W	5 AUG 1961
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		
Q <sub>1</sub> KP	2	2	2	2	2	3	53	3	A3	A3	A3	A2		
HMIN	230	239	218	285	280	269		104				107		
SCAT	61.2	38.5	56.0	41.5	48.6	43.4		30.1				64.4		
HMAXF	344	320	334	369	371	352		228				310		
SHMAX	272	179	179	122	144	151		197				903		
KM														
370						232								
360					222	232								
350					219	229	271							
340	371				211	221	271							
330	366	351	236		195	207	266							
320	357	351	232	143	163	234						819		
310	342	345	225	109	132	205						814		
300	325	325	214	68.8	94.3	165						799		
290	294	296	200	28.1	44.9	115						774		
280	250	252	179		5.1	59.7						735		
270	198	195	155			12.4						693		
260	136	122	129									640		
250	78.5	55.9	103									575		
240	38.6	12.4	76.2									495		
230	3.9		46.6					403				423		
220			16.8					395				363		
210								368				322		
200								300				296		
190								189				279		
180								135				268		
170								101				261		
160								71.5				248		
150								62.7				231		
140								58.9				182		
130								56.5				158		
120								55.1				43.2		
110								48.8						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W	5 AUG 1961
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q <sub>1</sub> KP	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A1		
HMIN												199		
SCAT												43.8		
HMAXF												300		
SHMAX												392		
KM														
360														
350														
340														
330														
320														
310														
300														
290														
280														
270														
260														
250														
240														
230														
220														
210														
200														
190														
180														
170														
160														
150														
140														
130														
120														
110														

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W	6 AUG 1961
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100		
Q <sub>1</sub> KP	F1	F1	1	1	1	2	B2	2	2	A2	A2	B2		
HMIN	279	249	220	199	210	198		107	107			106		
SCAT	37.3	51.0	35.1	36.1	40.0	45.5		39.3	34.0			67.6		
HMAXF	365	353	297	280	283	292		254	257			320		
SHMAX	172	263	190	146	104	80		247	412			1070		
KM														
370	325													
360	323	392												
350	311	392												
340	287	385												
330	252	172												
320	211	347												
310	161	322												
300	101	290	411			130								
290	51.2	246	407		206	130								
280	12.4	180	387	297	205	128								
270		101	351	292	200	123								
260		51.3	301	275	188	114		342	594					
250		12.4	226	246	170	103		341	587					
240			112	207	144	87.3		331	556					
230			44.1	151	108	69.1		311	499					
220			3.1	88.0	55.5	50.3		278	423					
210				45.4	1.7	32.8		238	339					
200				12.4		12.4		200	275					
190								166	236					
180								139	211					
170								115	189					
160								94.3	167					
150								77.5	144					
140								66.1	123					
130								60.3	103					
120								58.0	95.8					
110								43.2	46.3					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO													60 W	6 AUG 1961
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q <sub>1</sub> KP	2	A2	2	A2	2	2	2	B2	0	0	0	1		
HMIN	107		107		104	104	103		200	200	250	269		
SCAT	65.6		53.6		54.6	52.6	45.5		38.7	48.1	42.1	37.1		
HMAXF	331		328		322	321	302		276	313	338	354		
SHMAX	1129		1184		1165	1141	961		427	323	219	170		
KM														
360														
350														
340	941													
330	941		1157		1298	1353								
320	933		1150		1298	1353								
310	915		1123		1283	1340	1353							
300	887		1079		1246	1301	1353							
290	843		1008		1188	1236	1332							
280	794		918		1110	1150	1277							
270	738		820		989	1029	1186							
260	677		721		839	871	1071							
250	612		623		687	707	919							
240	544		525		641	546	698							
230	482		440		423	406	497							
220	423		374		343	305	358							
210	375		338		301	251	264							
200	341		320		277	224	267							
190	318		303		260	208	176							
180	303		287		240	195	150							
170	292		271		216	181	128							
160	280		256		191	166	109							
150	261		239		167	144	92.7							
140	230		212		141	121	80.7							
130	202		190		120	105	72.7							
120	171		164		112	100	69.2							
110	56.6		124		104	67.0	43.9							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	A1	A1	A0	A0	0	A1	C1	A1	A2	A2	A2	1
HMIN	279	280	229	239	200	228			110	103	105	
SCAT	41.3	40.4	52.0	31.6	47.1	36.6			50.5	57.4	48.4	
HMAXF	171	158	127	101	279	113			246	270	301	
SHMAX	174	178	255	134	114	79			397	537	697	
KM												
380	311											446
370	311											529
360	306	340										437
350	292	337										417
340	269	324										386
330	237	301	292									343
320	192	263	390			149						286
310	137	213	381	135					651			214
300	83.8	154	385	135					651			138
290	43.9	90.5	342	325		134			642			57.4
280	12.4	12.4	311	297	196	120			507	619		12.4
270			270	254	194	100			507	581		
260			212	174	188	77.1			503	531		
250			125	71.2	176	54.9			471	492	475	
240			55.0	12.4	162	33.5			470	470	422	
230			12.4		142	12.4			459	445	377	
220					112				440	412	344	
210					71.2				411	375	322	
200					12.4				373	340	308	
190									330	314	297	
180									286	296	286	
170									254	282	274	
160									229	267	258	
150									206	247	229	
140									172	222	188	
130									142	190	162	
120									130	163	152	
110									12.4	76.3	94.5	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

7 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	1	1	A2	2	A2	2	A2	B2	A1	1	1	2
HMIN	109	110	104	108	108	108	108	199	199	199	249	259
SCAT	69.1	47.6	41.1	53.6	53.6	53.6	53.6	42.9	50.8	39.0	45.2	45.2
HMAXF	345	325	305	311	311	311	311	307	318	345	353	353
SHMAX	1149	1120	1029	1031	1031	1031	1031	573	442	292	265	265
KM												
360												446
350	894											529
340	893											437
330	884	1184										417
320	865	1181				1121				616	474	386
310	837	1154		1360		1120			941	612	423	343
300	797	1101		1355		1108			934	596	354	286
290	752	1020		1317		1076			902	566	277	214
280	703	925		1239		1022			842	529	192	138
270	650	805		1118		953			763	480	109	57.4
260	592	678		952		865			661	420	49.7	12.4
250	532	561		753		767			541	351	12.4	
240	476	462		551		663			399	277		
230	425	387		387		557			252	204		
220	381	339		309		454			142	126		
210	346	311		281		364			62.3	60.7		
200	322	295		267		294			12.4	12.4		
190	304	284		257		251						
180	291	278		249		225						
170	281	273		244		206						
160	274	262		239		188						
150	260	247		210		168						
140	234	221		204		146						
130	199	198		173		125						
120	180	184		154		116						
110	27.2	12.4		67.2		43.7						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	2	2	4	4	4	4	A4	A4	3	3	3	2
HMIN	275	259	239	260	288	249			108	107	109	107
SCAT	49.6	42.4	37.0	41.4	37.2	36.2			39.1	61.9	50.4	59.7
HMAXF	364	344	331	339	387	333			275	322	311	323
SHMAX	262	209	177	147	136	132			635	1007	1088	1297
KM												
390					238							
380					236							
370	430				224							
360	429				207							
350	422	374			185							
340	405	374	331	271	155	259						
330	381	365	331	268	121	259			898		1229	
320	344	345	324	258	88.4	251			898	1131	1228	
310	293	315	303	240	58.8	233			890	1131	1214	
300	230	276	274	211	34.0	204			871	1116	1183	
290	139	222	233	174	12.4	167			840	1080	1135	
280	38.7	160	184	130		126			898	795	1016	1070
270		78.0	134	82.1		82.5			895	742	940	988
260		12.4	85.4	12.4		42.6			867	682	851	891
250			45.8		12.4				807	621	755	785
240									721	558	656	680
230									607	497	561	581
220									482	438	475	490
210									364	385	402	416
200									293	341	349	367
190									250	307	317	336
180									218	279	295	316
170									190	254	279	300
160									163	227	261	280
150									144	202	235	261
140									125	175	199	237
130									107	148	164	210
120									100	139	151	174
110									65.3	106	39.4	97.7

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

8 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QzFP	2	2	5	5	5	81		81	2	2	2	82
HMIN	110	108	109	109	107	106	107		190	218	289	227
SCAT	51.7	46.9	53.7	48.2	50.2	51.3	50.2		63.6	66.5	44.0	57.1
HMAXF	331	310	328	345	327	322	308		306	375	385	374
SHMAX	1392	1377	1296	1304	1406	1383	1123		828	400	245	316
KM												
390											411	
380										426	409	392
370										425	398	392
360										421	377	386
350				1298						411	345	374
340	1457			1295						397	304	357
330	1457		1240	1269	1620	1704				377	250	334
320	1439	1561	1234	1214	1612	1703				354	184	302
310	1395	1561	1207	1129	1573	1681	1464		1031	324	112	263
300	1317	1542	1159	1027	1502	1626	1455		1029	290	49.3	219
290	1224	1487	1086	912	1400	1538	1417		1016	252	12.4	175
280	1101	1394	1001	793	1260	1420	1347		989	215		134
270	958	1272	907	681	1096	1252	1255		950	180		99.1
260	811	1121	808	580	913	1051	1129		897	144		70.2
250	673	955	707	495	729	831	975		833	105		47.5
240	554	795	615	427	567	619	783		753	67.7		29.6
230	460	661	533	374	438	450	590		656	37.7		12.4
220	398	556	463	336	350	341	428		533	12.4		
210	359	474	407	311	302	285	297		378			
200	336	412	368	296	275	251	221		151			
190	317	366	339	285	259	227	177		12.4			
180	298	334	318	279	248	206	120					
170	279	313	301	273	232	184	129					
160	265	295	283	263	214	163	110					
150	250	276	260	250	196	145	94.5					
140	226	235	227	224	179	121	82.5					
130	186	208	198	182	161	108	75.3					
120	146	175	180	164	138	103	71.5					
110	124.5	54.3	39.6	33.3	11.8	55.3	41.4					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

9 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	2	2	1	A1	A1	A0	A0	A0	A1	A1	1	1
HMIN	269	289	269	227	225	225				107	108	107
SCAT	33.3	47.7	48.0	46.7	45.5	39.4				47.4	59.7	77.4
HMAXF	355	383	368	325	322	291				275	292	317
SHMAX	183	220	230	228	187	137				573	736	997
FM												
300		358										
360		357										
370		351	354									
360	374	336	352									
350	372	314	342									
340	354	283	323									
330	319	239	298	374	307							
320	369	188	286	373	307							
310	213	126	227	364	302							
300	145	62.4	182	347	290	293						
290	85.9	12.4	126	320	270	293						
280	44.0		60.4	285	244	288						
270	12.4		12.4	233	210	275						
260				173	164	249						
250				104	107	207						
240				54.6	55.8	142						
230				20.6	24.6	42.1						
220												
210												
200												
190												
180												
170												
160												
150												
140												
130												
120												
110												

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

9 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	H1	1	0	0	0	0	0	B0	A2	A2	A2	3
HMIN	194	107	109	108	107	107	108		200	210	229	248
SCAT	74.2	57.0	58.6	55.6	52.8	46.5	45.7		58.3	46.8	43.9	49.4
HMAXF	345	337	340	339	331	330	317		303	300	343	371
SHMAX	1200	1355	1440	1427	1338	1203	1177		785	482	273	260
FM												
380												373
370												373
360												368
350	932		1347									416
340	931	1240	1347	1411	1411	1424						356
330	922	1235	1337	1401	1411	1424						416
320	906	1212	1307	1349	1396	1407	1635					309
310	880	1170	1258	1314	1357	1356	1624					408
300	847	1106	1188	1236	1291	1269	1576					385
290	802	1028	1098	1137	1201	1158	1485					272
280	696	930	993	1019	1088	1017	1362					358
270	630	829	875	887	956	865	1191					228
260	576	727	752	759	818	697	964					183
250	520	627	644	641	670	557	774					1075
240	467	538	548	534	567	448	524					819
230	427	467	469	448	461	363	351					321
220	392	416	408	385	385	307	257					183
210	366	380	372	346	337	271	215					107
200	346	354	346	323	305	247	185					12.4
190	332	336	327	304	283	230	163					
180	320	320	309	288	263	211	143					
170	307	304	291	268	243	189	125					
160	292	286	272	246	223	165	107					
150	274	267	251	219	201	141	91.3					
140	248	247	230	189	173	123	81.5					
130	213	209	207	170	152	113	75.6					
120	183	185	175	160	143	109	72.2					
110	146.6	153	41.7	49.0	52.2	47.0	33.8					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

10 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	A3	53	3	3	3	2	A2	A2	A4	A4	A4	A2
HMIN	259	268	276	269	269	244						
SCAT	47.3	51.6	37.0	38.7	45.8	46.2						
HMAXF	374	385	357	355	366	346						
SHMAX	243	297	172	169	189	211						
FM												
390		403										
380	371	402										
370	370	395										
360	463	380	374	311	311							
350	346	357	331	310	302	334						
340	323	329	316	300	286	332						
330	286	297	288	278	267	324						
320	239	257	252	250	230	306						
310	191	214	206	214	185	284						
300	144	160	153	168	139	248						
290	94.8	117	83.9	113	83.3	208						
280	59.5	58.8	27.8	58.2	42.2	166						
270	33.0	16.8		12.4	12.4	122						
260	5.4					67.5						
250						29.3						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

10 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	R2	2	82	2	2	2	2	B2	4	A4	4	4
HMIN	102	106	107	109	108	109	110		215	278	299	289
SCAT	98.4	51.2	63.4	59.3	45.3	56.5	44.5		49.5	53.0	51.2	46.9
HMAXF	357	324	340	337	299	305	277		340	382	419	400
SHMAX	1438	1150	1313	1213	864	868	549		377	333	319	307
FM												
420												448
410												444
400												432
390												471
380												410
370	928											382
360	927											466
350	921		1184									452
340	911		1184									298
330	896	1131	1176	1229								386
320	876	1129	1154	1224								428
310	854	1110	1117	1204			980					244
300	826	1070	1065	1165	1031	979						340
290	788	1005	998	1113	1022	963						185
280	718	927	906	1017	988	933	775					283
270	683	834	802	934	929	887	770					128
260	627	729	688	808	845	826	745					215
250	569	615	580	672	734	732	702					435
240	515	515	488	529	614	606	637					310
230	466	436	423	424	479	486	551					254
220	427	380	380	361	384	385	430					12.4
210	395	348	351	326	330	300	320					28.0
200	371	331	332	308	297	264	238					
190	340	320	317	295	276	236	187					
180	312	312	304	280	257	213	154					
170	316	299	288	260	239	187	129					
160	299	283	268	232	218	160	106					
150	279	260	240	199	192	141	88.9					
140	251	225	207	170	151	126	79.4					
130	224	195	176	153	143	114	74.4					
120	200	182	160	145	136	108	71.8					
110	176	105	130	41.7	39.4	27.2	12.4					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> KP	4	4	3	3	3	3	R3	B3	A5	A5	5	3
HMIN	289	281	250	239	264	262			105		107	109
SCAT	54.0	52.3	47.3	51.0	52.3	45.6			63.6		108	82.0
HMAXF	408	394	357	341	374	348			324		304	319
SHMAX	355	346	343	317	303	233			536		582	698
KM												
410	489											
400	487	491										
390	474	491										
380	457	483			442							
370	428	467			441							
360	394	443	541		434							
350	340	404	538	494	418	409						
340	296	360	524	494	394	406						
330	233	306	497	488	362	393			416			
320	157	246	458	473	316	373			416		471	
310	89.3	180	403	449	261	339			411	381	470	
300	44.4	105	336	415	201	290			401	381	465	
290	12.4	45.4	259	357	132	223			383	380	456	
280			160	293	69.2	139			364	377	444	
270			90.6	217	30.0	57.8			342	372	426	
260			42.5	128					318	366	408	
250			1.7	54.6					294	350	388	
240				12.4					271	340	367	
230									250	333	365	
220									234	325	328	
210									222	321	314	
200									212	316	303	
190									203	311	295	
180									192	298	290	
170									180	282	284	
160									166	262	275	
150									149	234	257	
140									120	189	232	
130									106	172	199	
120									100	165	180	
110									51.9	135	41.7	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

11 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> KP	3	B3	4	4	4	4	A4	A4	A2	2	2	2
HMIN	104		110	107	106	107			232	231	259	259
SCAT	54.4		83.8	63.7	57.2	58.4			55.1	55.2	40.5	50.7
HMAXF	311		356	318	320	312			357	368	363	361
SHMAX	747		1260	1030	889	845			534	480	354	358
KM												
370												
360					941					621	588	541
350					940					714	618	588
340					933					711	605	574
330					919					696	581	543
320					898	941	819	923		670	547	493
310					871	937	813	923		632	504	436
300					836	923	794	914		583	450	366
290					797	896	763	891		520	387	285
280					747	858	717	855		443	315	207
270					687	807	661	806		360	240	129
260					620	742	594	725		266	168	60.1
250					547	662	522	611		174	108	12.4
240					469	580	451	482		90.1	59.9	
230					407	497	393	380		36.9	30.4	
220					367	476	351	309				
210					317	374	321	269				
200					324	340	301	244				
190					317	318	285	226				
180					304	301	266	208				
170					274	250	244	190				
160					246	251	220	171				
150					217	235	201	149				
140					187	213	183	128				
130					176	183	165	116				
120					132	166	153	103				
110	77.4		12.4	56.1	75.2	43.2						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> KP	2	2	2	2	2	0	R0	A0	A1	A1	A1	2
HMIN	249	264	281	279	269	229			138		106	107
SCAT	48.2	45.5	50.8	50.9	58.1	39.1			28.9		64.4	70.7
HMAXF	352	363	375	377	378	325			250		307	321
SHMAX	283	256	259	252	299	231			318		1056	1307
KM												
380			405	392	407							
370		411	404	390	405							
360	444	410	396	381	397							
350	444	402	380	365	384							
340	437	385	357	342	364							
330	421	359	324	307	337	430					1131	
320	394	318	276	258	301	428					1131	
310	359	272	219	200	256	413				1017	1124	
300	311	219	156	131	206	385				1014	1106	
290	251	158	75.9	63.8	142	340				999	1077	
280	179	87.2		12.4	72.2	281				971	1037	
270	106	32.9			208					931	983	
260	48.4				125					882	921	
250	12.4				70.8					809	847	
240					36.4					721	765	
230					4.7					626	675	
220										435	533	
210										327	455	
200										229	394	
190										175	348	
180										118	312	
170										108	281	
160										83.5	243	
150										71.3	219	
140										65.4	192	
130										62.1	158	
120										60.5	141	
110										30.1	95.9	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

12 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> KP	A2	2	52	2	2	3	3	A3	2	2	2	1
HMIN	106	109	108	110	108	109	109		220	200	208	268
SCAT	66.3	57.4	58.1	58.5	56.5	51.8	68.9		35.6	36.5	73.3	50.6
HMAXF	364	339	362	333	322	320	344		292	272	384	388
SHMAX	1350	1292	1426	1475	1246	1056	1130		522	312	401	243
KM												
390												
380												
370												
360												
350	1121		1335				1075					
340	1120	1184	1334	1491			1074					
330	1109	1177	1321	1490	1298		1064					
320	1085	1153	1287	1471	1298	1131	1043					
310	1049	1110	1231	1431	1285	1120	1010					
300	1001	1047	1158	1369	1251	1089	963					
290	938	971	1055	1284	1197	1036	910			1184		
280	862	875	956	1173	1128	961	845			1153	669	
270	781	776	832	1032	1024	874	764			1070	669	
260	697	676	710	881	902	775	673			947	652	
250	615	578	601	727	771	663	575			721	610	
240	541	493	512	587	635	553	478			412	541	
230	480	431	445	473	510	453	385			125	434	
220	433	388	397	403	417	375	303			131	296	
210	399	362	364	359	356	322	246			131	12.4	
200	376	345	341	333	319	287	204			12.4		
190	359	336	326	316	296	260	173					
180	339	328	312	301	278	236	146					
170	311	312	295	285	260	212	123					</

## ELECTRON DENSITY

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q>KP	294	1	0	0	0	0	B0	0	A0	A0	A0	
OSAT	494.4	51.7	30.45	39.7	62.7	48.3		107.4				110
HMAXF	408	374	297	291	366	350		287				320
SHMAX	241	284	206	156	184	132		365				882
FM												
410	258											
400	255											
300	246											
380	290	420										
370	305	419			224							
360	271	412			223	215						
350	229	397			220	215						
340	183	375			214	213						
330	132	341			205	206						
320	84.0	294			194	195						651
310	47.0	242			178	178						648
300	22.3	187	465	296	158	151						640
290		121	459	296	134	121		442				628
280	58.0	428	290	108	84.0			439				610
270	19.9	374	275	83.2	44.9			427				587
260		302	250	64.5	12.4			402				558
250		210	216	44.1				369				525
240			117	173	15.6			324				484
230			56.5	108				275				450
220			12.4	47.8				232				415
210				12.4				198				384
200								171				360
190								146				341
180								123				325
170								101				309
160								79.0				292
150								68.3				272
140								62.9				245
130								59.6				202
120								57.8				182
110								39.4				12.4

## ELECTRON DENSITY

NAME	AFB	PUERTO RICO	60 W						13 AUG 1961					
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
QZKP	A0	0	0	0	A0	A0	A0	A0	A0	0	0	0		
HMJN		109	108	109	106	109			204	239	249	259		
SCAT		63.5	62.7	75.7	65.5	53.6			51.2	55.7	49.6	49.9		
HMAXF		336	337	346	351	332			321	368	368	373		
SHMAY		1041	1222	1344	1262	1074			562	519	443	372		
KM														
380												562		
370										675	648	561		
360					1065					672	643	551		
350				1075	1065					658	626	530		
340		858	1031	1073	1057	1105				634	596	498		
330		856	1028	1063	1037	1105				598	552	452		
320		843	1012	1043	1004	1092				782	552	494		
310		821	982	1014	995	1060				773	493	421		
300		787	940	981	901	1005				749	424	334		
290		743	882	928	837	939				709	347	250		
280		687	817	870	761	850				657	269	166		
270		611	742	804	667	759				591	192	89.5		
260		561	660	723	588	645				514	112	43.6		
250		478	578	637	507	542				431	54.5	12.4		
240		424	502	551	443	451				340	12.4			
230		383	439	472	392	373				237				
220		354	393	410	356	322				112				
210		337	360	366	330	287				38.1				
200		324	339	336	311	262								
190		314	325	313	295	244								
180		308	316	296	277	226								
170		307	304	279	256	202								
160		296	292	263	226	177								
150		273	272	245	199	155								
140		234	246	221	169	138								
130		204	216	194	157	127								
120		159	195	176	151	121								
110		22.5	162	59.7	72.1	41.7								

## ELECTRON DENSITY

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
0.45P	0	0	1	1	1	1	51	1	A3	A3	A3	A4
0.45P	26	250	231	271	200	220		1A8				
SCAT	48.4	43.3	37.3	49.6	42.5	38.0		34.2				
WMAX	365	336	327	330	305	315		273				
SHMAX	333	313	261	287	230	189		372				
KM												
370	539											
160	537											
150	526											
340	503	562										
330	468	559	478	430								
320	420	542	473	426		335						
310	355	509	449	413	390	334						
300	272	463	414	390	389	322						
290	168	394	365	361	377	298						
280	69	380	305	305	322	357	267					
270	12.4	194	233	277	322	225		607				
260		85.5	144	219	276	177		585				
250		12.4	76.9	140	223	125		539				
240			37.1	73.2	168	78.5		462				
230				34.4	103	40.0		360				
220					52.2	3.1		270				
210					12.4			211				
200								168				
190								133				
180								103				
170								75.9				
160								65.4				
150								60.7				
140								57.8				
130								56.0				
120								54.7				
110								39.6				

## ELECTRON DENSITY

PAMEY AFR, PUERTO RICO					60 W					14 AUG 1961				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		
Q <sub>1</sub> KIN	44	4	3		A3	A1	A1	A1	21	A1	A1	A1		
H <sub>1</sub> MIN		107	108				108		220	200	236	272		
CCAT		62.4	62.3		61.1		36.6		36.6	60.7	65.4	46.5		
HMAXF		351	351				355		289	346	363	384		
SHMAX		1698	1658				1409		651	699	470	471		
KM														
790												747		
780												746		
370											730	730		
940							1424		729		697			
350		1561	1477				1421			782	715	647		
340		1561	1466				1402			780	680	579		
330		1549	1435				1363			769	633	492		
320		1516	1385				1305			746	565	377		
310		1464	1315				1229			709	478	248		
300		1388	1228				1133			667	374	147		
290		1290	1128				1019		1491	617	265	82.2		
280		1189	1014				888		1470	557	176	36.2		
270		1060	889				754		1394	493	111			
260		929	770				626		1261	424	68.5			
250		800	665				514		1022	351	41.0			
240		678	558				415		584	285	18.1			
230		571	484				335		505	225				
220		478	430				276		12.4	169				
210		372	390				237			107				
200		372	358				204			12.4				
190		346	334				178							
180		328	315				154							
170		316	300				132							
160		302	287				113							
150		280	266				96.6							
140		268	233				84.0							
130		218	205				75.1							
120		200	189				70.1							
110		91.4	65.3				38.6							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	F1	A1	A6	4	4	2	B2	2	2	A2	S2	A2
HMIN	273	256	221	229	259	261		108	109	108	108	108
SCAT	46.2	47.5	39.7	49.0	51.2	41.8		39.2	43.2	46.9	66.1	72.0
HMAXF	301	365	313	326	371	361		247	250	268	306	349
SHMAX	403	433	345	291	229	218		418	450	530	876	1285
KM												
370	621											
360	621											
360	612				335							
370	589	669			335	371						
360	550	667			331	371						
350	498	651			321	365						
340	433	621			305	348				985		
330	356	575		471	281	320				981		
320	266	519	633	470	249	283				967		
310	168	446	632	459	207	235			747	912		
300	95.9	354	616	439	162	182			746	867		
290	93.9	248	578	411	115	126			737	818		
280	25.4	132	524	363	72.8	72.0			719	763		
270		65.2	449	301	40.4	34.9			630	693	702	
260		24.1	350	227	12.4				625	657	637	
250			245	137				734	621	607	616	577
240			119	59.4				728	613	571	568	518
230			46.4	12.4				701	589	526	519	466
220								692	547	467	473	424
210								562	490	407	430	390
200								437	418	353	393	363
190								272	340	303	362	340
180								171	276	256	334	321
170								128	227	209	311	301
160								101	188	176	285	272
150								83.1	151	156	258	232
140								72.0	126	143	228	200
130								67.0	116	135	190	180
120								60.9	98.9	130	162	169
110								27.3	24.1	43.7	43.7	81.9

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

15 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	A2	A2	A1	A1	A1	A2	A2	S2	A3	3	A3	2
HMIN									208	202	240	251
SCAT									39.1	59.8	49.0	34.4
HMAXF									307	349	363	353
SHMAX									660	769	525	378
KM												
370											772	
360											771	701
350										898	758	699
340										894	730	675
330										876	685	619
320										847	625	545
310										1173	803	547
300										1164	750	448
290										1118	683	346
280										1032	608	239
270										918	526	145
260										778	445	80.3
250										610	359	39.7
240										424	266	3.9
230										223	174	
220										86.9	91.8	
210										20.5	36.9	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	2	2	A1	1	A1	A0	S0	0	0	0	0	1
HMIN	259	248	245	222	213	210		110	109	107	108	109
SCAT	43.7	45.6	49.1	35.1	37.8	39.6		34.5	30.5	52.3	70.1	73.8
HMAXF	358	362	349	315	307	296		257	243	268	307	344
SHMAX	404	404	420	304	295	252		422	460	578	877	1331
KM												
370		621										
360	676	671										
350	669	611	651								1031	
340	644	586	645								1030	
330	604	545	627								1021	
320	547	492	593	607							1003	
310	471	425	548	605	562					720	975	
300	376	345	483	581	557	494				718	934	
290	272	262	404	533	533	490				709	889	
280	156	182	314	461	490	473				693	834	
270	69.0	103	200	373	426	440			613	664	772	
260	12.4	52.0	100	255	347	387		758	610	636	702	
250		17.2	32.9	144	250	307		749	782	595	603	633
240				74.7	133	205		736	780	566	568	566
230				36.9	65.9	102		638	745	532	529	505
220					31.8	42.2		527	668	490	490	454
210						3.1		377	550	447	449	416
200								251	427	406	409	388
190								179	341	368	371	366
180								134	278	330	337	345
170								103	227	290	306	323
160								84.0	188	251	275	300
150								74.9	153	213	248	272
140								69.7	125	163	206	233
130								66.7	112	137	172	189
120								60.8	106	128	160	167
110								12.4	33.0	109	55.6	39.4

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

16 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	1	1	1	1	1	1	A1	A1	A1	1	1	1
HMIN	107	107	107	107	106					200	199	238
SCAT	67.9	58.3	50.7	58.0	59.2					42.7	61.9	42.9
HMAXF	337	350	332	350	357					277	341	366
SHMAX	1471	1589	1508	1582	1575					576	566	362
KM												
390												531
380												529
370												516
360												539
350			1398		1424	1485						487
340	1240	1388	1561	1414	1458						651	523
330	1236	1358	1561	1383	1411						651	492
320	1220	1307	1540	1331	1338						646	448
310	1190	1235	1400	1254	1251						633	395
300	1146	1147	1404	1165	1133						611	337
290	1088	1051	1297	1065	1006						577	275
280	1019	947	1167	957	877						542	213
270	938	836	1017	846	744						1075	496
260	853	728	869	741	625						496	155
250	764	632	712	647	526						1068	444
240	672	547	612	561	448						1033	384
230	584	481	513	492	392						967	324
220	505	430	440	438	353						873	260
210	444	397	391	397	323						736	188
200	398	373	360	366	301						557	117
190	366	357	338	341	283						302	61.5
180	343	343	319	318	245						12.4	12.4
170	325	327	302	295	241							
160	306	308	283	269	208							
150	286	283	263	239	183							
140	254	245	235	211	163							
130	207	217	204	188	152							
120	185	207	189	175	145							
110	97.7	97.7	61.4	71.6	72.1							

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

17 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	1	1	1	A1	1	2	52	2	1	1	1	1
HMIN	275	260	230	270	284	240		113	105	107	110	105
SCAT	47.6	32.3	51.5	52.1	41.8	40.2		38.7	42.4	85.3	48.2	59.0
HMAXF	372	326	330	332	340	325		260	267	308	278	310
SHMAX	342	245	302	321	205	185		319	593	848	761	1099
KM												
370	556											
370	556											
360	548											
350	528					371						
340	497		465	467	371							
330	446	556	465	467	366	342						
320	378	551	460	461	349	340						
310	300	521	447	444	322	329		659		1027		
300	211	465	426	422	284	357		667		1020		
290	111	390	395	390	231	277		661		998		
280	32.8	285	349	346	173	235		651	894	962		
270		152	290	291	97.3	183		529	850	635	887	907
260		12.4	217	226	35.3	121		529	844	615	861	845
250			132	150		51.3		520	816	589	816	773
240			56.3	84.5		3.1		491	762	562	752	689
230			4	42.3				448	685	532	649	599
220				3.1				383	575	502	518	516
210								301	432	471	410	448
200								220	317	439	363	399
190								164	254	403	336	365
180								110	217	346	315	341
170								109	183	284	295	321
160								94.1	151	237	275	299
150								79.0	127	195	258	275
140								67.1	114	161	215	248
130								63.1	106	141	172	210
120								49.1	101	126	153	189
110									87.2	44.5	12.4	133

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

17 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	1	1	2	2	A2	1	1	51	1	A1	1	2
HMIN	107	108	106	108		109	108		200	227	230	249
SCAT	58.1	62.5	63.5	62.4		51.3	51.2		55.9	41.8	54.7	43.8
HMAXF	317	324	347	341		318	312		337	331	360	366
SHMAX	1127	1260	1449	1433		1276	1257		795	523	449	331
KM												
370											583	517
360											583	515
350			1229	1281							578	501
340			1225	1281								
330		1131	1204	1271								
320	1031	1130	1172	1244		1484	1635		1007	868	502	380
310	1028	1117	1120	1202		1476	1634		970	828	462	320
300	1010	1090	1059	1139		1441	1612		917	763	410	251
290	978	1049	980	1068		1377	1558		846	676	351	178
280	926	992	886	988		1284	1471		758	575	286	116
270	865	923	787	892		1164	1358		660	451	217	71.0
260	793	842	691	787		1022	1196		551	305	146	39.2
250	714	753	608	685		860	1007		417	172	84.5	12.4
240	633	657	538	590		691	774		276	77.7	42.2	
230	557	571	484	504		545	558		156	24.0	3.1	
220	488	493	441	444		425	392		80.8			
210	433	431	407	383		343	283		40.2			
200	396	387	379	348		292	270		3.1			
190	369	356	354	323		258	182					
180	349	335	332	307		234	155					
170	328	317	311	292		210	134					
160	302	297	288	266		186	117					
150	269	273	262	231		165	104					
140	217	242	227	201		139	92.4					
130	193	215	198	179		122	82.2					
120	181	200	181	166		114	76.5					
110	90.3	81.6	98.0	80.8		33.1	38.1					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

18 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	0	0	1	1	1	2	52	2	2	2	2	2
HMIN	262	259	240	219	257	270		108	108	108	107	109
SCAT	37.0	41.4	36.7	53.2	40.3	46.0		42.9	40.5	61.1	87.7	68.7
HMAXF	363	367	311	321	352	363		279	254	289	326	334
SHMAX	261	304	264	246	182	178		545	585	752	1208	1427
KM												
370	463	505				295						
360	462	501			309	294						
350	449	484			309	289						
340	416	450			302	276				1184		
330	374	405		392	287	257				919	1183	
320	321	351	567	392	261	230				918	1172	
310	266	284	567	388	230	194				912	1148	
300	189	202	555	377	193	149				899	1111	
290	122	130	522	360	153	97.0			714	881	1056	
280	71.1	79.9	467	336	110	48.0		854	710	852	998	
270	34.0	41.8	382	301	66.9	3.1		845	696	822	934	
260		12.4	261	257	24.0			813	882	673	789	862
250			118	204				757	879	638	750	787
240			12.4	139				671	854	598	708	705
230				67.2				538	807	553	662	617
220				12.4				378	717	507	606	535
210								254	576	461	538	465
200								189	444	417	462	410
190								150	339	375	395	373
180								115	275	332	341	345
170								82.1	231	291	306	323
160								71.0	196	252	277	302
150								66.0	164	217	245	282
140								63.0	142	178	214	259
130								61.2	123	148	185	228
120								59.8	112	138	168	196
110								27.3	38.6	39.4	117	59.7

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

18 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QzFP		2	2	1	A1	A1	A1	A1	A1	A2	A2	A2
HMIN		109	109	110						200	199	218
SCAT	53.7	49.2	57.2							42.7	40.2	45.4
HMAXF		320	327	332						281	313	359
SHMAX		1348	1461	1494						673	466	481
KM												380
380												613
370												608
360											669	587
350											662	550
340				1491							639	501
330			1561	1490							596	432
320		1360	1554	1473							782	547
310		1348	1517	1433							781	490
300		1313	1448	1371							761	423
290		1254	1345	1282					1240		717	348
280		1169	1219	1180					1240		648	270
270		1068	1073	1062					1219		566	201
260		959	912	929					1164		461	142
250		842	750	787					1076		339	95.5
240		717	609	656					955		229	59.5
230		592	502	538					778		150	34.0
220		488	431	445					537		88.2	12.4
210		418	386	382					240		44.0	
200		375	360	344					12.4		12.4	
190		348	347	320								
180		330	334	298								
170		317	320	279								
160		302	300	258								
150		281	274	221								
140		255	239	191								
130		210	205	178								
120		191	192	172								
110		41.7	41.7	12.4								

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	3	A3	3	A3	3	3	53	A3	2	A2	2	A1
HMIN	269	279	238	236	254	269		110	108	109	109	
SCAT	42.7	47.9	42.1	43.7	52.1	55.5		25.7	37.8	78.8	69.3	
HMAXF	380	382	335	324	376	384		249	247	298	319	
SHMAX	413	453	393	336	342	408		545	547	784	968	
KM												
300		704				562						
380	651	703			471	561						
370	643	692			470	552						
360	617	666			460	534						
350	571	623			442	507						
340	516	570	681		415	471						
330	450	504	679	594	378	426						
320	375	415	661	592	334	368						
310	296	302	623	578	283	298				782		
300	204	170	567	449	224	211			666	767		
290	110	75.4	498	503	163	117			664	747		
280	50.1	12.4	407	445	107	54.6			657	719		
270	12.4		288	364	62.9	12.4			645	681		
260			157	255	29.0				627	640		
250			64.9	113				1360	941	601	595	
240			20.5	29.4				1315	932	575	550	
230								1168	892	442	506	
220								867	822	501	465	
210								482	690	456	427	
200								251	492	412	392	
190								168	331	370	360	
180								136	245	331	333	
170								110	203	292	308	
160								90.3	169	254	279	
150								77.1	134	217	243	
140								68.5	115	180	205	
130								62.9	104	152	171	
120								59.9	99.7	140	156	
110								12.4	39.4	33.1	27.2	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

19 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>z</sub> FP	1	51	50	A0	A0	A1	A1	51	A1	1	1	F1
HMIN	108	109	108	108	109					219	200	229
SCAT	57.1	52.4	50.4	59.6	47.7					44.0	54.9	46.9
HMAXF	352	327	318	320	310					317	322	346
SHMAX	1444	1506	1384	1341	1132					711	649	460
KM												
360	1204											651
350	1206											701
340	1193											698
330	1162	1561		1353								680
320	1105	1554	1519	1353	1335							850
310	1043	1519	1510	1343	1335							1229
300	970	1455	1472	1314	1320							839
290	890	1365	1399	1265	1275							596
280	809	1243	1307	1198	1195							514
270	726	1088	1183	1109	1098							1184
260	648	922	1035	1001	970							815
250	576	775	880	875	808							535
240	516	650	727	743	658							465
230	468	549	590	606	523							357
220	429	470	479	483	414							244
210	399	417	404	397	352							1015
200	374	380	360	347	313							723
190	346	354	331	314	288							456
180	338	334	310	296	267							360
170	321	319	291	277	245							259
160	301	299	271	255	219							102
150	279	277	246	225	191							589
140	249	248	203	197	162							156
130	226	215	180	176	143							25.5
120	193	195	170	162	134							473
110	49.0	64.5	163	115	50.7							502

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>z</sub> FP	F1	F1	F0	F0	F0	2	52	2	2	A2	A2	A3
HMIN	252	231	218	217	219	207		110	110			
SCAT	44.5	42.2	30.7	45.0	42.6	35.6		38.3	44.4			
HMAXF	355	335	296	306	319	280		244	250			
SHMAX	417	447	287	263	246	141		274	395			
KM												
360	710											
350	708											
340	691	737										
330	664	734										
320	603	714			401							
310	524	669			450	397						
300	416	612	681	448	381							
290	296	544	674	437	354							
280	179	463	636	414	321	309						
270	87.9	364	561	379	282	303						
260	37.2	221	458	337	235	285						
250		106	292	283	177	255			515			
240		41.1	126	197	104	207			463	515		
230			51.3	88.1	45.1	136			446	488		
220			17.2	25.1	12.4	61.4			417	456		
210						20.7			364	409		
200									284	352		
190									199	300		
180									140	259		
170									108	225		
160									80.4	192		
150									68.1	156		
140									63.7	121		
130									61.2	108		
120									59.4	99.0		
110									12.4	12.4		

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

20 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QzFP	A3	A3	A2	A2	2	1	A1	51	2	2	2	2
HMIN	108	109		110	109	109	108		200	219	242	259
SCAT	71.0	88.2		59.6	63.2	49.5	49.4		43.7	60.4	44.0	43.1
HMAXF	330	369		372	356	328	310		298	368	355	367
SHMAX	1055	1409		1370	1484	1339	1217		457	540	400	344
KM												
380				1131								549
370			963							648		545
360			960		1170	1160				645	627	545
350			951		1093	1156				633	625	528
340			937		1051	1338				613	608	494
330	842	916		992	1302	1561				581	572	452
320	838	889		919	1249	1551	1680			565	529	396
310	826	857		839	1175	1511	1680			496	475	330
300	805	815		758	1196	1438	1663		747	439	402	262
290	777	769		678	999	1335	1611		741	373	320	182
280	739	715		599	873	1200	1523		715	302	225	102
270	693	659		524	750	1052	1402		665	225	133	44.5
260	643	601		460	636	877	1223		606	152	70.7	12.4
250	485	544		410	534	706	1007		529	96.6	34.2	
240	428	490		374	444	560	716		442	57.7		
230	467	441		349	376	434	503		336	32.0		
220	415	399		330	329	345	338		203	5.9		
210	375	367		316	298	291	243		79.9			
200	346	342		304	276	258	190		12.4			
190	325	321		292	261	236	162					
180	308	308		278	247	216	141					
170	290	291		261	231	196	124					
160	270	273		240	213	176	108					
150	246	250		215	191	157	93.0					
140	218	219		191	170	137	80.8					
130	195	194		169	151	122	71.8					
120	181	180		157	138	112	67.0					
110	65.3	33.3		12.4	65.6	41.7	38.6					





## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	0	0	1	1	1	0	50	0	1	1	1	1
HMIN	261	252	251	228	212	246		109	109	107	106	107
SCAT	37.8	44.2	39.0	36.7	41.0	38.1		45.7	50.7	48.8	65.8	71.5
HMAXF	355	347	332	313	297	335		276	270	267	300	351
SUMAX	257	266	246	227	205	160		438	589	562	799	1290
KM												
360	471											999
350	469	450										999
340	452	447	491			297						992
330	417	433	491			296						976
320	372	407	470	454		286						950
310	314	371	451	454		265			710	910		
300	245	320	407	441	380	235			710	868		
290	160	255	342	408	377	196			706	815		
280	85.4	183	249	365	363	152		619	710		694	758
270	38.3	107	127	301	338	99.0		616	710	630	673	696
260		42.3	47.5	218	302	53.2		601	703	627	645	630
250				122	251	22.7		570	682	610	609	566
240				54.9	190			526	645	578	559	503
230				17.2	106			448	599	538	505	447
220					41.0			350	538	488	448	402
210								265	467	434	396	365
200								205	391	383	355	318
190								162	323	338	326	318
180								131	268	298	305	301
170								106	222	262	284	284
160								87.1	183	230	261	266
150								73.9	150	200	234	246
140								65.7	122	168	204	221
130								61.5	105	136	174	187
120								57.2	98.8	127	154	167
110								12.4	37.2	81.5	122	56.6

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

23 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A1	A1	1	1	1	1	1	51	0	0	80	0
HMIN	109	110	110	108	107	107	109		200	199	231	270
SCAT	59.6	47.7	42.4	53.5	42.5	40.1	40.8		41.7	33.5	45.9	39.5
HMAXF	336	336	316	321	307	301	293		283	286	340	359
SUMAX	1415	1492	1463	1614	1374	1128	1139		430	295	261	205
KM												
360												374
350												370
340	1287	1665										411
330	1283	1659		196.0								406
320	1262	1620	1921	1860								392
310	1224	1535	1909	1841	1860	1712						368
300	1163	1431	1848	1789	1848	1712	1860					334
290	1090	1279	1728	1702	1787	1681	1857		801	607	290	112
280	1005	1085	1561	1589	1670	1597	1812		800	603	236	53.5
270	911	903	1325	1431	1513	1459	1794		782	574	176	1.7
260	811	741	1059	1237	1292	1256	1554		737	517	117	
250	711	603	828	1017	1039	976	1334		677	442	66.0	
240	618	498	635	796	787	716	1010		588	344	31.5	
230	533	428	490	609	597	513	705		459	229		
220	458	382	397	468	450	369	454		285	125		
210	396	351	348	377	360	288	297		134	62.9		
200	353	329	320	325	309	247	206		19.7	12.4		
190	326	312	303	297	278	222	162					
180	308	300	291	278	258	201	136					
170	294	287	277	264	244	176	114					
160	270	271	259	251	230	146	96.2					
150	260	249	230	229	210	114	81.3					
140	233	212	203	200	178	101	71.8					
130	202	179	179	167	153	95.1	68.1					
120	177	136	153	151	136	91.7	55.6					
110	59.7	12.4	12.4	45.8	83.6	61.6	24.1					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q <sub>RP</sub>	0	0	0	0	0	1	51	1	1	A1	A1	A2
HMIN	246	269	234	207	227	236		108	109	107	110	
SCAT	45.2	37.8	31.7	45.1	41.7	34.7		26.4	46.9	37.4	61.7	
HMAXF	163	348	310	300	316	306		241	228	224	280	
SUMAX	241	178	166	176	148	98		313	333	312	528	
KM												
370	369											
360	369											
350	361	358										
340	344	354										
330	318	337										
320	284	309	374			271						
310	238	264	374	296	270	215						
300	190	205	364	296	261	214						
290	145	130	336	292	246	204						
280	102	61.1	290	281	220	185				461		
270	65.7	12.4	227	263	185	157				458		
260	39.4		149	237	140	117				449		
250	18.4		73.4	202	82.8	65.8		681		434		
240			31.4	158	47.9	24.1		681		411		
230				107	16.2			653	531	448		
220				53.4				576	527	447	364	
210				19.9				433	511	432	346	
200								267	483	402	334	
190								182	438	357	324	
180								143	333	309	312	
170								120	221	270	292	
160								98.1	179	244	262	
150								77.0	141	215	230	
140								63.2	109	172	187	
130								58.5	98.1	137	150	
120								53.8	90.9	128	130	
110								20.5	22.3	59.5	12.4	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

24 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Q <sub>RP</sub>	A2	A2	2	2	A2	A2	2	52	2	2	2	2
HMIN			108	108			109		199	214	255	269
SCAT			47.3	49.6			35.3		50.9	47.0	45.2	41.8
HMAXF			310	325			277		298	341	363	368
SUMAX			1150	1178			810		441	324	277	239
KM												
370											446	411
360											446	407
350										448	437	391
340											448	417
330				1275							442	386
320			1257	1271							344	271
310			1257	1244						396	290	213
300			1242	1192					651	363	222	145
290			1199	1112					647	325	154	85.3
280			1120	1011		1417			631	281	92.0	44.0
270			1037	890		1462			603	235	46.1	12.4
260			932	755		1342			560	187	20.7	
250			811	624		1204			512	136		
240			688	512		1026			450	90.3		
230			578	418		802			367	53.3		
220			476	354		552			277	23.8		
210			399	317		352			168			
200			349	295		217			29.7			
190			317	280		179						
180			296	264		147						
170			282	242		126						
160			261	217		108						
150			243	193		91.2						
140			217	173		75.1						
130			184	159		64.9						
120			165	150		61.4						
110			40.4	109		27.2						

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

25 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O <sub>1</sub> KP	52	2	2	2	2	2	S2	2	A3	A3	A3	2
HMIN	254	265	228	209	220	214		112	110			110
SCAT	362.8	444.1	354.6	39.7	374.6	474.4		344.3	384.8			554.2
HMAXF	358	360	310	298	307	308		255	247			217
SHMAX	225	265	236	202	163	154		264	384			1017
KM												
360	401	448										
350	396	443										
340	377	425										
330	343	397										
320	300	356	480									980
310	245	301	480			311	247					977
300	187	236	470		374	308	245					958
290	128	159	438		371	296	238					923
280	80.9	85.3	394	356	272	225						869
270	47.0	29.4	329	328	235	207						806
260	22.3		250	290	192	180		442				733
250			150	239	141	148		440	567			654
240			63.1	178	80.9	112		421	563			569
230			17.8	102	40.2	69.9		383	541			450
220				44.9	3.1	32.1		322	500			421
210				12.4				245	440			365
200								186	368			327
190								144	290			302
180								111	233			284
170								85.1	194			270
160								66.8	164			255
150								61.3	139			238
140								58.9	115			214
130								57.6	100			177
120								49.9	82.1			151
110									12.4			12.4

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

25 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O <sub>1</sub> KP	2	2	2	2	2	3	3	53	2	2	2	2
HMIN	109	109	109	109	109	109	107		200	199	239	251
SCAT	58.8	51.0	42.7	41.0	42.5	50.0	49.9		41.9	61.4	47.3	38.0
HMAXF	335	339	308	291	279	297	308		291	342	352	355
SHMAX	1164	1362	1370	1073	891	817	742		471	518	330	264
KM												
360											494	461
350											594	493
340	985	1411									593	486
330	983	1398									588	467
320	969	1349									575	436
310	940	1296	1851				1022				554	397
300	890	1199	1833	1677			949	1016			525	348
290	837	1081	1746	1677			945	990			858	489
280	779	944	1645	1599	1234		923	944			843	445
270	717	895	1481	1523	1219		873	877			804	396
260	650	670	1252	1399	1171		821	791			739	346
250	585	553	974	1201	1088		751	669			648	291
240	524	480	713	912	969		666	498			522	232
230	468	394	524	627	826		572	342			365	171
220	419	350	399	404	672		471	224			195	113
210	377	322	335	317	493		380	164			77.8	57.5
200	345	304	304	286	352		303	131			12.4	12.4
190	321	292	285	264	288		249	103				
180	303	282	273	232	255		216	80.0				
170	288	273	248	197	227		192	61.0				
160	273	253	241	176	201		168	54.8				
150	255	213	217	164	170		141	51.0				
140	233	177	192	157	144		119	48.4				
130	208	161	174	153	131		103	46.7				
120	174	152	164	147	125		94.3	45.6				
110	131	41.7	42.6	36.4	41.7		27.2	25.5				

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

26 AUG 1961

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
O <sub>1</sub> KP	42	2	2	42	42	43		3	A2	2	2	A1
HMIN	266	269	249	219	229	229		111	109	107	107	
SCAT	40.8	41.8	35.5	43.0	38.8	37.6		30.3	23.6	42.5	91.1	
HMAXF	371	365	320	314	311	315		250	227	249	315	
SHMAX	264	255	224	221	193	178		286	278	443	785	
KM												
380	450											
370	450	448										
360	441	447										
350	419	434										
340	383	407										
330	336	369	494									
320	278	316	494	385	381	358					567	
310	211	250	484	384	381	356					466	
300	141	174	454	374	373	344					563	
290	81.9	98.3	404	353	354	319					556	
280	44.3	43.0	325	323	319	277					546	
270	18.4	12.4	203	280	265	214					533	
260			98.7	224	195	145					515	
250			22.3	159	118	82.3		583		546	494	
240				88.2	57.6	41.8		567		541	471	
230				41.8	12.4	12.4		523	575	520	447	
220				12.4				419	564	486	419	
210								376	507	438	391	
200								186	395	384	342	
190								119	274	335	334	
180								110	211	293	307	
170								87.3	179	258	282	
160								65.5	146	232	260	
150								54.3	113	205	241	
140								49.5	94.8	178	201	
130								46.9	88.2	148	161	
120								45.4	83.8	133	146	
110									41.7	63.5	90.3	

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

26 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O <sub>1</sub> KP	A1	A1	A3	A3	A3	A3	A3	A3	A3	A3	A3	2
HMIN							109			200	199	239
SCAT							36.1			50.9	50.3	41.2
HMAXF							293			306	323	336
SHMAX							862			552	416	287
KM												
360												407
350												406
340												400
330											588	491
320											587	476
310											819	478
300							1360				817	556
290							1357				800	523
280							1314				768	478
270							1220				718	424
260							1074				657	358
250							880				583	285
240							844				491	207
230							452				360	135
220							328				193	80.0
210							256				75.9	41.8
200							222				12.4	12.4
190							201					
180							181					
170							160					
160							137					
150							117					
140							101					
130							89.9					
120							84.2					
110							29.7					

## ELECTRON DENSITY

27 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O.KP	A1	B1		1	A1			S1	A2	2	2	F2
HMIN	106		109	108	109	108	107		200	218	223	260
SCAT	49.8		44.1	40.2	40.0	43.1	38.6		36.2	35.1	42.8	41.9
HMAX	328		318	300	318	300	288		288	310	329	355
SHMAX	1339		1468	1247	1139	1136	1070		405	304	285	266
KM												
360												471
350												470
340												456
330	1453											471
320	1344		1851									466
310	1308		1834	1784		1561				580	448	330
300	1245		1770	1784	1635	1553	1784			569	416	255
290	1153		1658	1756	1623	1505	1780		782	531	374	173
280	1047		1500	1673	1564	1412	1729		772	479	320	95.5
270	930		1302	1534	1451	1284	1614		732	408	258	44.3
260	809		1078	1339	1292	1114	1498		662	325	183	3.1
250	694		845	1080	1071	911	1227		562	239	107	
240	594		652	805	836	700	915		441	143	55.3	
230	506		492	580	619	528	626		311	68.3	25.4	
220	433		396	474	442	391	402		190	20.5		
210	381		341	338	340	301	257		93.6			
200	344		299	300	291	248	188		12.4			
190	317		291	278	262	216	152					
180	297		275	262	243	193	127					
170	282		259	244	226	174	107					
160	270		242	272	206	156	91.1					
150	260		222	193	181	133	78.4					
140	246		198	169	155	108	65.0					
130	220		174	155	135	97.3	61.2					
120	179		159	145	123	88.4	57.0					
110	106		41.7	80.7	59.7	54.3	33.6					

## ELECTRON DENSITY

28 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OKP	A1	A1	A1	A1	A1	A1	A1	A1	A2	2	2	1
HMIN									199	238	267	
SCAT									32.1	41.3	40.9	
HMAXF									267			367
CHMAX									281		165	144
KM												
370												247
360												245
350												
340											266	236
330											266	220
320											245	165
310											225	126
300											198	88.6
290											167	59.0
280											133	35.1
270									6.88	99.9		15.8
260									6.80	66.5		
250									6.66	37.3		
240									5.68	12.4		
230									4.45			
220									27.3			
210									86.4			
200									12.4			

## ELECTRON DENSITY

RAYEY AFB, PUERTO RICO				60 W				29 AUG 1961				
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q, K P	A1	1	0			1	51		1	1	A1	A4
HMIN	268	272	231	199	259	230		113	108	110	109	
SCAT	434.8	364.8	384.7	433.3	364.4	394.1		494.1	593.3	354.4	434.4	
HMAX	364	357	297	278	327	304		249	231	233	240	
CHMAX	145	133	146	83	67	73		328	280	354	397	
KM												
370	247											
360	247	253										
350	241	251										
340	229	240										
330	211	219			140							
320	182	193			139							
310	147	159			132	148						
300	108	116	320		121	148						
290	67.7	69.3	317		102	144						
280	37.7	33.5	304	149	78.6	135						
270	12.4		280	148	49.5	120						
260			244	142	12.4	97.8						
250			174	132		67.0		507				482
240			63.7	120		33.2		534	359	522	482	
230				102				489	359	520	475	
220				77.4				467	356	503	456	
210				43.6				429	348	465	423	
200				12.4				344	332	399	379	
190								245	215	325	333	
180								16.7	289	275	301	
170								120	253	246	277	
160								90.5	200	228	256	
150								73.5	150	217	236	
140								66.8	117	170	215	
130								63.6	102	135	176	
120								43.9	95.5	122	149	
110								42.3	124	133	141	

## ELECTRON DENSITY

[illegible]

## ELECTRON DENSITY

RAYEY AFR, PUERTO RICO				60 W				30 AUG 1961				
TIME	0200	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
Q, KP	A4	4	2	2	2	4	S4	A4	A6	6	6	85
HMIN	249	227	200	206	207	210				109	109	148
SCAT	33.1	41.3	34.4	51.7	44.2	32.8				32.0	41.8	56.1
SUMAX	340	305	263	324	306	273				25.2	27.7	35.2
	352	335	158	177	97	66				71.1	67.3	94.5
FM												
350	529											
340	520											
330	517			184								779
320	478			194								778
310	418	648		181	156							769
300	335	646		174	155							752
290	232	628		163	151							726
280	143	588		151	146	160					831	688
270	79.5	535	373	137	132	159				1234	825	647
260	42.0	453	372	121	117	153				5234	796	558
250	17.4	334	360	100	95.5	141				1194	739	562
240		164	331	74.8	71.1	114				1096	664	483
230		35.3	285	52.2	48.3	75.8				927	577	430
220			200	33.9	29.6	38.9				679	483	386
210			94.9	17.5	12.4	3.9				477	398	353
200			12.4							340	338	326
190										286	302	310
180										255	278	295
170										232	260	280
160										208	240	263
150										180	213	240
140										144	177	213
130										134	154	184
120										116	130	167
110										25.9	24.5	59.9

## ELECTRON DENSITY

RAYEY AFR, PUERTO RICO				60 W				30 AUG 1961				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
CKMP	5	5				4	4	5	5	5	5	5
HKN	110	109	105	104	109	109	110	97	199	229	228	265
CRAT	57.1	56.2	47.1	43.6	43.0	49.0	38.9	39.3	61.9	49.5	45.1	44.3
MAXF	347	347	324	321	309	299	287	272	346	360	348	383
CHMAX	1103	1292	1221	1212	1279	1264	846	556	550	390	326	339
FM												
300												517
380												516
370										531		506
360										531		483
340		1141									526	494
330	1080	1137								646	510	489
320	1080	1117	1360	1519						637	481	473
310	1071	1078	1338	1518						619	444	444
300	1046	1024	1331	1496	1752					591	396	405
290	1026	959	1276	1434	1734	1712				558	342	356
280	946	882	1183	1372	1670	1697	1547			517	288	301
270	875	799	1069	1399	1562	1648	1533	085		461	231	239
260	801	712	922	998	1395	1559	1471	985	399	175	170	213
250	726	625	767	794	1182	1441	1362	963	334	117	106	
240	641	544	629	616	926	1280	1178	910	259	72.0	63.6	
230	561	472	504	468	646	1053	885	824	179	39.4	35.8	
220	491	413	419	366	513	881	578	694	117	12.4	12.4	
210	437	369	361	312	364	586	284	55	72.0			
200	383	338	326	284	315	384	172	359	45.4			
190	348	318	306	267	280	273	131	205	12.4			
180	323	300	294	256	258	224	109	121				
170	301	284	286	248	234	199	89.2	72.8				
160	281	267	274	239	209	180	67.4	48.5				
150	260	248	254	226	190	158	56.1	35.8				
140	247	226	239	217	171	138	50.4	28.8				
130	231	200	234	183	150	119	46.2	25.5				
120	189	167	180	140	135	106	44.8	24.1				
110	162	157	162	147	126	101	47.1	22.9				
100	19.7	33.3	59.7	41.7	41.7	38.1	12.6	20.4				
							12.4					

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

31 AUG 1961

[illegible]

## ELECTRON DENSITY

RAMEY AFB, PUERTO RICO

60 W

21 AUG 1961

TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
O, K P	4	4	3	A3	3	4	4	A4	A4	4	4	5
HMIN	108	109	108		108	108	108		198	218	255	277
SCAT	69.8	63.4	64.8		48.5	48.9	40.6		45.5	56.2	48.8	49.0
HMAX	311	318	308		285	279	282		320	348	369	385
HMM	688	767	742		558	496	369		288	263	210	194
EW												
360												292
360												291
370											309	285
360											306	273
350										340	297	254
340										338	280	232
330									430	331	259	200
320	519	672							430	319	230	162
310	519	670	660						424	300	197	119
300	516	659	657						409	278	156	74.7
290	507	640	647				529		381	249	110	41.8
280	485	616	628		621	588	529		346	214	71.9	16.2
270	449	577	605		602	583	518		301	176	43.1	
260	449	521	568		569	566	491		248	135	20.6	
250	424	452	517		519	538	448		196	93.7		
240	396	384	456		461	496	385		147	59.4		
230	168	330	396		398	434	309		98.3	34.0		
220	341	299	343		341	364	233		60.2	12.4		
210	318	282	309		298	295	181		34.5			
200	292	272	288		268	246	220		12.4			
190	284	267	275		250	214	122					
180	274	262	263		233	194	102					
170	268	255	251		214	174	85.2					
160	262	235	237		192	154	72.2					
150	250	210	218		168	133	62.3					
140	216	189	182		146	112	55.0					
130	185	173	150		129	98.2	49.6					
120	166	144	150		120	91.5	46.4					
110	65.3	32.1	53.6		39.4	52.7	28.9					

KP BELOW 4.5

AVERAGE ELECTRON DENSITY

KP BELOW 4.5

AVERAGE ELECTRON DENSITY

AUG 1961

60 W

RAMEY AFB, PUERTO RICO

AUG 1961

60 W

RAMEY AFB, PUERTO RICO

TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	COUNT	18	17	20	18	17	17	16	1	27	25	26	28
COUNT	29	28	29	31	28	31	31	0	22	18	16	14	18	18	17	20	18	17	17	16					
KP	1.8	1.8	1.7	1.7	1.7	1.8	1.5	1.5	1.5	1.4	1.6	1.6	1.6	1.8	1.7	1.8	1.7	1.8	1.9	1.8	B2.0	1.7	27	25	26
HMN	265	258	236	228	242	238	109	109	108	108	108	108	108	107	108	108	108	108	108	108	108	109	205	217	242
RATIO	5.8	6.0	6.3	6.1	5.9	6.1	5.8	5.2	4.1	3.5	3.3	3.3	3.3	3.5	3.7	3.9	4.0	4.1	4.4	4.9	5.5	5.7	5.1	5.3	
SCAT	43.4	42.9	41.0	42.5	43.8	43.0	37.8	40.7	54.3	65.7	68.7	68.7	68.7	63.2	57.6	56.0	55.7	51.3	49.6	47.1	42.6	47.2	50.4	46.6	
NMAX	472	500	484	388	328	302	580	657	625	694	901	901	901	1055	1234	1356	1209	1224	1240	1324	1070	876	629	512	
HMAX	366	352	323	318	334	337	257	252	270	297	326	326	326	333	332	328	325	316	311	304	277	307	344	356	
SHMAX	282	288	260	218	192	174	342	450	595	783	1081	1081	1081	1212	1292	1314	1236	1093	1023	960	672	541	446	371	
SHINF	1613	1697	1624	1314	1117	1026	1978	2302	2357	2741	3621	3621	3621	4187	4774	5139	4901	4545	4522	4695	3691	3011	2220	1781	
KM	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	950	
950	42.1	41.2	34.8	27.3	25.3	23.0	29.9	33.3	35.6	44.7	65.9	65.9	65.9	79.8	92.8	99.7	94.3	85.9	84.6	87.3	60.9	57.5	47.7	43.6	
900	54.0	52.8	44.6	35.0	32.5	29.5	38.4	42.8	45.8	57.3	84.6	84.6	84.6	102	119	128	121	110	109	112	78.2	73.8	61.2	55.9	
850	69.2	67.8	57.2	44.9	41.6	37.8	49.3	54.9	58.7	73.5	109	109	109	850	131	153	164	155	141	139	144	100	94.7	78.5	71.7
800	88.7	86.8	73.4	57.5	53.3	48.4	63.2	70.5	75.3	94.3	139	139	139	800	168	196	210	199	181	179	184	129	121	101	91.8
750	113	111	93.0	73.6	68.2	62.0	81.1	90.3	96.5	121	178	178	178	750	215	251	269	255	232	229	236	165	155	129	117
700	145	142	120	94.1	87.1	79.1	104	116	124	155	228	228	228	700	275	320	344	326	297	293	302	211	199	164	150
650	183	180	153	120	111	101	133	148	158	197	290	290	290	650	350	408	438	415	378	373	385	270	254	209	190
600	231	227	194	152	140	127	169	189	201	251	367	367	367	600	443	516	555	526	479	474	489	344	322	265	240
550	287	284	244	191	175	159	215	240	255	316	462	462	462	550	557	648	698	661	603	597	617	436	406	332	299
500	349	348	302	237	216	196	271	303	320	395	572	572	572	500	688	802	864	819	749	743	769	548	507	410	366
490	362	361	315	247	225	204	284	317	334	412	596	596	596	490	716	834	900	853	781	775	803	573	529	427	380
480	375	375	327	257	233	212	297	332	349	430	620	620	620	480	744	868	936	887	813	807	837	598	551	443	393
470	387	388	340	268	242	219	310	347	364	448	644	644	644	470	773	901	973	922	845	840	871	625	574	460	407
460	399	401	353	278	251	227	324	362	380	466	669	669	669	460	802	930	1009	957	878	874	906	652	597	477	421
450	411	414	366	288	259	235	339	378	396	485	693	693	693	450	830	968	1046	992	911	907	942	679	620	494	434
440	422	427	379	299	268	243	353	395	412	503	717	717	717	440	858	1001	1083	1027	943	941	977	708	644	510	446
430	433	439	392	309	276	250	368	411	428	522	741	741	741	430	886	1033	1119	1061	976	974	1013	736	667	526	458
420	442	450	404	319	284	257	383	429	445	541	765	765	765	420	913	1065	1154	1095	1008	1008	1048	765	690	541	470
410	450	461	416	329	291	263	399	446	461	559	787	787	787	410	938	1095	1187	1127	1039	1040	1083	794	713	556	480
400	457	470	427	338	298	269	414	464	478	577	808	808	808	400	962	1123	1210	1158	1069	1072	1117	824	736	570	488
390	462	478	438	347	304	274	430	481	494	595	828	828	828	390	984	1149	1240	1186	1097	1102	1150	853	757	583	495
380	464	484	448	355	309	278	446	499	511	612	847	847	847	380	1004	1172	1276	1213	1130	1181	1236	909	797	603	503
370	463	488	456	362	313	281	461	517	526	627	862	862	862	370	1021	1192	1300	1236	1147	1156	1210	909	797	603	503
360	456	488	468	368	315	283	477	534	541	642	876	876	876	360	1034	1209	1320	1255	1167	1180	1236	936	815	610	502
350	440	482	468	372	314	284	492	551	556	655	886	886	886	350	1044	1220	1335	1270	1184	1200	1260	962	830	612	495
340	414	470	470	374	310	283	506	568	569	666	893	893	893	340	1049	1227	1344	1278	1195	1216	1278	936	842	611	481
330	376	449	467	373	302	278	520	584	581	675	895	895	895	330	1047	1225	1346	1279	1199	1228	1292	1008	850	604	456
320	327	418	459	369	289	271	532	599	591	682	891	891	891	320	1035	1210	1335	1270	1196	1232	1300	1027	854	591	422
310	268	374	442	361	271	259	544	612	600	686	879	879	879	310	1012	1177	1308	1247	1182	1226	1300	1044	851	568	376
300	203	318	414	345	247	240	554	624	606	684	859	859	859	300	973	1124	1250	1207	1154	1202	1289	1057	841	536	321
290	138	252	377	322	215	215	563	635	608	678	828	828	828	290	921	1051	1183	1148	1106	1156	1262	1066	821	493	262
280	82.0	179	328	291	177	185	569	643	607	663	789	789	789	280	854	961	1084	1069	1035	1084	1208	1070	786	440	199
270	43.2	112	268	253	141	151	572	648	601	643	739	739	739	270	781	858	963	966	941	988	1126	1063	732	383	136
260	19.5	58.3	203	206	109	116	570	648	591	615	683	683	683	260	702	749	828	848	827	866	1010	1028	661	319	84.2
250	7.0	27.1	132	152	78.1	82.2	562	641	573	582	621	621	621	250	623	643	692	717	701	724	864	962	568	252	44.7
240	2.7	9.5	72.4	103	52.8	51.4	538	621	547	542	556	556	556	240	547	567	570	585	577	580	678	869	451	188	19.8
230	.1	1.3	33.9	60.1	31.3	25.7	491	586	514	497	492	492	492	230	478	469	473	471	469	455	502	748	323	126	6.0
220	13.0	30.4	14.8	11.5			417	531	473	450	435	435	435	220	422	411	402	388	386	360	356				





# TABLES OF IONOSPHERIC DATA

JULY 1961 - SEPTEMBER 1957

Table 1

Washington, D. C. (38.7° N, 77.1° W)							
July 1961							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		4.8 28	300				2.9 2.85
01		4.45 28	290				2.8 2.90
02		3.9 26	280				2.85 2.90
03		3.5 27	280				2.90 2.90
04		3.2 25	305				2.90 2.6
05		3.35 30	285				3.00 1.7
06	415	4.25 30	245	3.4	115	2.25	2.5 2.90
07	410	4.85 30	230	4.0	111	2.70	3.0 2.90
08	420	4.95 30	220	4.2	107	3.05	3.8 2.82
09	375	5.45 30	215	4.5	105	3.30	4.0 2.92
10	460	5.55 30	205	4.6	105	3.40	3.7 2.68
11	445	5.5 29	200	4.7	109	3.50	4.0 2.75
12	430	5.5 29	200	4.7	105	3.62	4.1 2.75
13	445	5.4 29	210	4.7	109	3.60	4.7 2.65
14	400	5.6 30	(230)	4.7	109	3.50	4.2 2.80
15	405	5.7 31	230	4.6	109	3.40	4.0 2.75
16	375	5.9 31	225	4.4	109	3.25	3.7 2.80
17	355	6.1 30	240	4.2	111	2.95	3.3 2.80
18	310	6.6 31	240	(3.6)	115	2.45	3.2 2.92
19	270	6.7 29	<265	---	129	1.80	4.2 3.00
20		6.8 31	250				3.3 3.00
21		6.2 29	260				2.7 2.90
22		5.55 26	270				3.2 2.85
23		5.2 28	<280				2.88

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3

Washington, D. C. (38.7° N, 77.1° W)							
June 1961							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		4.9 29	280				2.8 2.85
01		4.5 29	270				2.4 2.90
02		4.1 30	270				2.90 2.90
03		3.6 29	<280				2.7 2.95
04		3.3 29	280				3.2 2.90
05	---	3.6 29	270		---	---	2.0 3.10
06	345	4.4 29	240	3.6	111	2.30	2.8 3.00
07	350	5.1 30	225	4.0	108	2.75	3.8 3.00
08	340	5.5 29	220	4.3	105	3.10	4.2 3.00
09	360	5.7 29	(215)	4.5	103	3.30	4.6 2.92
10	360	6.0 29	(205)	4.7	101	3.45	5.6 2.95
11	380	5.9 29	200	4.8	102	(3.50)	5.7 2.90
12	400	6.0 28	200	4.8	101	3.55	4.6 2.85
13	380	5.95 30	210	4.8	105	(3.60)	4.3 2.90
14	380	5.95 30	210	4.8	105	3.50	4.6 2.85
15	370	6.2 30	220	4.7	105	3.40	4.2 2.85
16	350	6.4 30	220	4.4	105	3.20	4.0 2.90
17	330	6.5 30	230	4.3	109	2.90	4.2 2.95
18	300	6.7 30	245	---	111	2.45	4.2 2.98
19	265	6.8 30	<260		<127	---	4.7 3.10
20		6.9 29	250				4.5 3.02
21		6.4 29	260				4.5 2.95
22		5.9 29	<270				3.5 2.95
23		5.4 29	270				3.4 2.95

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Huancayo, Peru (12.0° S, 75.3° W)							
June 1961							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		5.7 25	230				3.2 3.30
01		5.0 27	240				3.2 3.30
02		5.0 27	240				3.6 3.35
03		4.55 28	245				3.2 3.25
04		4.0 27	250				3.5 3.20
05		3.6 27	250				3.6 3.25
06		3.3 27	285				4.2 3.90
07		5.9 30	245		119	(2.10)	5.9 3.15
08		7.45 30	225		111	(2.75)	6.8 2.95
09	(320)	7.9 30	210	---	109	(3.10)	8.1 2.80
10	(330)	7.6 30	200	4.6	107	(3.35)	9.0 2.60
11	380	7.65 30	200	4.7	107	(3.50)	9.1 2.52
12	(335)	7.5 29	195	4.6	107	(3.50)	9.1 2.55
13	340	7.5 29	195	4.6	107	(3.50)	9.0 2.60
14	---	7.8 29	195	4.5	107	(3.35)	9.0 2.55
15	---	7.8 29	200	---	105	(3.10)	8.1 2.55
16	---	8.1 29	210		109	(2.70)	7.3 2.60
17		8.3 29	245		117	(2.20)	5.8 2.65
18		7.9 30	270		---	1.25	4.0 2.65
19		7.05 30	285				3.2 2.65
20		7.2 28	270				3.4 2.70
21		7.35 26	245				3.4 3.00
22		6.75 26	230				3.2 3.20
23		6.0 26	235				3.4 3.30

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Huancayo, Peru (12.0° S, 75.3° W)							
July 1961							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		5.8 26	230				3.6 3.20
01		5.75 28	235				3.2 3.25
02		5.45 28	240				3.2 3.20
03		5.0 26	240				3.6 3.25
04		4.75 22	245				2.7 3.22
05		4.1 21	250				3.6 3.20
06		3.35 22	270				3.7 3.08
07		5.9 25	245		119	(2.10)	5.7 3.10
08		7.6 29	225		109	(2.72)	7.0 2.92
09	---	7.95 30	210		105	(3.10)	7.8 2.70
10	---	7.7 30	200	---	103	(3.38)	8.8 2.60
11	(360)	7.55 28	200	4.6	103	(3.50)	9.0 2.55
12	375	7.6 29	195	4.7	101	(3.60)	9.0 2.55
13	370	8.05 30	195	4.6	103	(3.52)	8.6 2.50
14	(350)	8.0 31	195	---	101	(3.40)	8.2 2.50
15	---	8.0 31	200	---	103	(3.20)	8.1 2.50
16		8.1 31	210		105	(2.80)	7.4 2.55
17		8.0 31	240		113	(2.30)	5.8 2.60
18		7.9 30	<270		<156	1.40	4.3 2.60
19		7.2 30	290				3.2 2.60
20		7.15 28	280				3.4 2.75
21		7.2 29	255				3.5 2.90
22		6.6 27	230				3.2 3.10
23		6.2 27	230				3.0 3.20

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Talara, Peru (4.6° S, 81.3° W)							
June 1961							
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00		6.0 24	230				3.10 3.10
01		5.6 27	240				3.25 3.10
02		4.6 27	250				3.10 3.10
03		5.0 25	265				3.10 3.20
04		4.6 25	250				3.25 3.02
05		4.05 24	240				3.10 3.10
06		3.6 23	260				3.00 3.10
07		5.0 25	250		<125	2.02	2.9 3.00
08		6.6 29	220		111	2.70	3.3 2.50
09	---	7.3 28	210		109	3.15	3.6 2.38
10	(365)	7.55 28	200	4.7	109	3.40	3.6 2.25
11	400	7.7 28	200	4.8	107	3.55	3.6 2.25
12	410	8.0 28	200	4.7	107	3.65	3.1 2.28
13	390	8.25 28	200	4.8	107	3.60	3.3 2.30
14	400	8.4 28	200	4.8	107	3.50	3.1 2.35
15	(375)	8.75 26	200	---	107	3.30	2.6 2.50
16	---	9.0 28	200	---	109	3.00	2.4 2.60
17		9.1 30	220		(113)	2.58	2.2 2.65
18		9.0 30	255		<145	1.90	2.75 3.10
19		8.5 30	280				3.35 3.35
20		8.0 29	300				
21		7.7 27	300				
22		8.5 25	255				
23		>7.5 25	225				

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Resolute Bay, Canada (74.7° N, 94.9° W)							May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	---	4.9 31	250			1.9		3.0
01	---	4.8 31	260			1.9		3.0
02	(300)	4.6 31	250	---		1.9		3.0
03	300	4.7 31	250	3.1		2.0		3.0
04	300	4.7 31	240	3.4		2.2		3.0
05	350	4.6 31	230	3.5		2.3		2.9
06	390	5.0 31	230	3.6		2.5		2.9
07	390	4.9 31	220	3.9		2.8		2.8
08	430	4.8 31	210	3.9		2.9		2.7
09	405	4.7 30	215	4.0		3.0		2.8
10	430	5.0 30	210	4.1		3.0		2.7
11	430	5.0 29	220	4.1		3.0		2.65
12	440	5.0 30	210	4.1		3.0		2.6
13	410	5.2 30	205	4.1		3.0		2.7
14	410	5.0 30	210	4.1		3.0		2.7
15	400	5.0 30	210	4.1		3.0		2.7
16	395	5.2 30	220	4.0		2.9		2.7
17	400	4.8 31	220	4.0		2.8		2.8
18	360	5.0 31	230	3.8		2.6		2.8
19	355	4.9 31	230	3.6		2.4		2.8
20	305	5.0 31	235	3.6		2.3		2.9
21	300	5.0 31	240	3.4		2.1		2.9
22	(290)	4.8 31	250	---		2.0		3.0
23	(310)	5.0 31	260	---		1.9		3.0

Table 7

Tromsø, Norway (69.7° N, 19.0° E)									
									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	(3.8)	6	---	---	---	3.8	---	
01	---	(4.7)	8	(295)	---	---	3.4	---	
02	---	4.9	11	(260)	---	1.85	4.0	---	
03	(380)	4.7	14	(260)	3.25	110	---	4.0	2.70
04	(400)	4.9	19	260	3.40	110	2.25	3.0	2.70
05	380	5.0	20	245	3.75	110	2.40	---	2.70
06	400	5.0	23	245	3.85	110	2.65	---	2.70
07	400	5.4	22	240	4.10	110	2.75	---	2.70
08	380	5.5	25	225	4.15	105	2.85	---	2.70
09	360	5.8	24	220	4.30	105	3.00	---	2.85
10	360	5.7	27	215	4.40	105	3.00	---	2.90
11	360	5.8	26	210	4.40	105	3.10	---	2.90
12	375	5.7	27	215	4.40	105	3.10	---	2.90
13	390	5.5	30	210	4.35	105	3.00	---	2.90
14	355	5.7	26	215	4.30	105	3.00	---	2.95
15	345	5.4	30	210	4.10	110	3.00	---	2.95
16	(360)	5.4	30	220	4.10	105	2.85	3.2	2.90
17	---	5.5	27	245	---	110	2.60	3.4	3.05
18	---	5.4	26	245	---	110	2.45	3.0	3.05
19	---	5.2	25	250	---	110	2.40	3.3	2.90
20	---	5.1	25	---	---	110	---	3.8	2.90
21	---	(5.0)	15	---	---	---	---	4.0	(2.90)
22	---	5.0	10	---	---	---	---	4.0	(2.80)
23	---	(4.7)	9	295	---	---	---	3.8	(2.80)

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 9

Sodankylä, Finland (67.4° N, 26.6° E)									
									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	(5.3)	9	300	---	---	3.0	---	(2.85)
01	---	(5.1)	9	320	---	---	3.2	---	(2.80)
02	---	(4.6)	5	310	---	E	3.5	---	
03	---	4.8	10	300	---	---	1.60	3.0	2.80
04	---	5.0	13	265	---	135	2.00	3.3	2.90
05	---	4.4	18	250	3.4	120	2.25	(3.4)	2.70
06	---	5.1	23	230	3.8	120	2.50	3.6	2.80
07	---	5.3	25	230	3.9	115	2.60	3.7	2.75
08	---	5.5	26	220	4.2	115	2.75	3.6	2.80
09	---	5.5	24	220	4.2	115	2.90	4.2	2.80
10	---	5.8	26	220	4.3	110	3.00	4.0	2.85
11	---	5.9	24	215	4.5	110	3.10	4.2	2.90
12	---	5.8	28	215	4.5	115	3.20	3.6	2.90
13	---	5.8	29	210	4.5	115	3.10	3.7	2.90
14	---	5.7	28	215	4.4	115	3.10	---	2.90
15	---	5.8	28	215	4.4	115	3.00	4.1	2.95
16	---	5.6	27	220	4.3	115	2.90	4.2	3.00
17	---	5.6	30	230	---	115	2.70	4.0	2.95
18	---	5.6	28	240	---	115	2.50	3.4	3.00
19	---	5.6	26	250	---	120	2.30	3.4	3.00
20	---	5.4	23	260	---	125	2.05	3.3	3.00
21	---	5.3	17	265	---	145	1.80	3.2	2.95
22	---	5.0	14	275	---	E	---	2.3	2.90
23	---	5.0	13	290	---	E	---	3.2	2.80

Time: 30.0°E.

Sweep: 1.4 Mc to 22.0 Mc in 8 minutes, automatic operation.

Table 11

Lycksele, Sweden (64.6° N, 18.8° E)									
									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	4.2	27	280	---	---	3.0	---	2.7
01	---	4.3	29	290	---	---	3.0	---	2.7
02	---	4.0	29	280	---	---	1.20	2.5	2.7
03	---	4.0	28	265	---	110	1.50	3.0	2.7
04	380	4.2	28	245	3.30	110	1.90	3.4	2.7
05	390	4.7	27	235	3.60	105	2.20	3.7	2.7
06	380	4.7	30	225	3.80	105	2.40	3.3	2.7
07	390	5.3	28	210	(4.00)	100	2.60	4.0	2.7
08	380	5.4	31	210	(4.20)	100	2.80	3.8	2.8
09	360	5.7	31	210	4.30	100	3.00	4.2	2.8
10	345	5.8	31	205	4.40	100	3.00	4.0	2.8
11	350	5.7	31	205	4.40	100	3.10	3.8	2.8
12	345	(5.7)	31	205	4.40	100	3.10	3.5	(2.9)
13	350	5.6	31	200	4.40	100	3.10	3.6	2.9
14	340	(5.7)	28	205	(4.30)	100	3.00	3.5	(2.9)
15	320	(5.7)	31	210	4.20	100	2.90	3.1	(2.9)
16	320	(5.7)	31	215	4.10	100	2.70	3.5	(2.9)
17	300	(5.7)	31	230	3.90	105	2.50	3.4	(2.9)
18	280	(5.6)	30	230	3.60	105	2.30	3.5	(3.0)
19	---	5.6	30	240	---	110	2.00	3.3	3.0
20	---	5.7	29	250	---	120	1.70	3.0	3.0
21	---	5.4	29	250	---	125	1.40	2.2	2.9
22	---	4.6	31	260	---	---	---	2.9	2.8
23	---	4.6	30	275	---	---	---	2.9	2.8

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 8

Kiruna, Sweden (67.8° N, 20.4° E)									
									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	(4.5)	6	300	---	---	4.6	---	(2.6)
01	---	(3.7)	8	325	---	---	4.4	---	(2.6)
02	---	4.2	14	310	---	---	---	4.0	2.6
03	(340)	4.0	17	280	3.0	---	1.8	3.6	2.6
04	375	4.3	25	250	3.3	110	2.0	3.4	2.6
05	405	4.4	28	240	3.5	110	2.2	3.9	2.6
06	390	4.8	26	235	3.8	110	2.4	---	2.6
07	400	5.0	27	220	4.0	110	2.6	4.0	2.6
08	380	5.4	27	215	4.2	105	2.8	4.0	2.7
09	365	5.6	28	220	4.3	105	2.9	3.4	2.7
10	350	5.7	28	220	4.4	105	3.0	5.5	2.75
11	355	5.8	29	210	4.4	105	3.0	3.6	2.7
12	370	5.7	30	210	4.4	110	3.0	---	2.8
13	335	5.6	30	210	4.4	105	3.0	---	2.8
14	345	5.6	29	215	4.3	110	2.9	---	2.8
15	335	5.4	31	215	4.2	110	2.8	3.6	2.8
16	325	5.4	30	225	4.1	110	2.7	---	2.8
17	310	5.5	27	235	3.7	110	2.4	4.6	2.8
18	290	5.3	29	240	3.5	110	2.3	3.5	2.8
19	---	5.4	26	250	3.2	110	2.0	3.2	2.85
20	---	5.1	20	265	---	---	1.7	3.0	2.9
21	---	4.9	14	270	---	---	1.4	3.8	2.75
22	---	(5.1)	7	280	---	---	---	3.8	(2.8)
23	---	(5.2)	5	300	---	---	---	3.0	(2.7)

Time: 15.0°E.

Sweep: 0.8 Mc to 15.0 Mc in 30 seconds.

Table 10

Luleå, Sweden (65.6° N, 22.1° E)									
									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00	---	(4.0)	7	300	---	---	---	(2.2)	(2.8)
01	---	4.6	12	300	---	---	---	(2.1)	2.9
02	---	4.4	16	300	---	---	---	---	2.8
03	---	4.2	18	270	---	140	1.9	---	2.9
04	390	4.8	21	250	3.4	130	2.2	---	2.8
05	400	4.9	21	240	3.7	120	2.4	---	2.9
06	385	5.0	20	230	4.0	120	2.7	---	2.8
07	400	5.4	21	225	4.0	115	2.8	---	2.8
08	370	5.6	21	210	4.3	110	3.0	---	2.8
09	355	5.8	22	215	4.4	110	3.1	---	2.8
10	355	5.8	26	225	4.4	110	3.1	---	2.9
11	345	6.0	23	215	4.5	110	3.2	---	2.9
12	350	5.9	23	215	4.5	110	3.2	---	2.9
13	350	5.8	25	225	4.5	110	3.2	---	2.9
14	345	5.8	24	220	4.4	110	3.1	---	2.9
15	340	5.8	23	225	4.2	110	3.0	---	2.9
16	330	5.8	26	230	4.0	115	2.8	---	3.0
17	---	5.8	25	240	---	120	2.6	---	3.0
18	---	5.8	24	250	---	125	2.4	---	3.0
19	---	5.6	22	250	---	125	2.1	---	3.0
20	---	5.6	18	260	---	150	1.8	2.2	3.0
21	---	4.7	19	275	---	---	1.5	---	3.0
22	---	4.4	13	280	---	---	---	1.3	2.9
23	---	(4.2)	10	280	---	---	---	---	---

Time: 15.0°E.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 12

Nurmijarvi, Finland (60.5° N, 24.6° E)								May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	1	290				----
01		(4.8)	4	295				----
02		(3.7)	4	290				----
03		(4.3)	5	295				(2.95)
04		(4.1)	8	280				(3.05)
05		4.6	16	240	---		----	3.00
06		5.2	15	230	3.7	2.10		3.00
07		5.2	22	210	4.0	2.55	2.7	2.95
08		5.6	22	220	4.1	2.80	2.9	3.00
09		6.2	24	210	4.3	2.90	3.4	3.10
10		6.1	23	210	4.4	3.10	3.6	3.10
11		6.2	24	205	4.5	3.10	3.5	3.10
12		6.2	26	205	4.5	3.10		3.15
13		6.2	28	210	4.5	3.10		3.15
14		6.0	29	205	4.5	----		3.15
15		5.9	31	205	4.4	3.10		3.15
16		6.0	30	220	4.2	3.00	3.0	3.15
17		5.9	29	220	4.1	2.80		3.20
18		6.0	25	230		2.50	2.9	3.20
19		6.0	26	250		2.10	2.6	3.20
20		6.0	18	260		----	2.4	3.20
21		(5.8)	6	270				(3.25)
22		(6.2)	5	250				(3.00)
23		(5.7)	3	280				----

Table 13

Upsala, Sweden (59.8° N, 17.6° E)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	4.9	30	265		---	0.75	2.2	2.7
01	4.2	30	265		---	0.85	2.3	2.7
02	3.8	31	280		115	0.95	2.3	2.7
03	3.9	31	280		115	1.45	2.5	2.7
04	(345)	4.1	31	260	3.20	110	1.80	4.0
05	370	4.6	31	240	3.60	105	2.20	4.0
06	365	5.0	31	225	3.90	105	2.45	4.3
07	350	5.5	30	210	4.10	100	2.70	4.4
08	355	5.9	29	210	4.30	100	2.95	4.7
09	350	6.1	30	210	4.40	100	3.10	4.5
10	350	6.1	31	205	4.60	100	3.20	4.5
11	335	6.3	31	210	4.60	100	3.25	4.5
12	335	6.1	30	205	4.60	100	3.25	4.7
13	340	6.0	29	205	4.60	100	3.30	4.5
14	330	6.1	31	210	4.50	100	3.20	4.5
15	330	6.1	31	210	4.40	100	3.10	4.4
16	305	6.2	30	215	4.30	105	2.90	4.4
17	295	6.2	30	230	4.00	105	2.60	4.2
18	(305)	6.1	31	240	3.80	105	2.30	3.9
19	---	6.1	31	250		105	1.90	3.5
20		6.1	31	250		110	1.50	3.0
21		6.0	31	245		115	1.20	2.4
22		5.4	31	255		140	---	2.0
23		5.1	31	255		---	---	2.2

Time: 15.0°E.

Sweep: 0.33 Mc to 20.0 Mc in 3 minutes.

Table 15

De Bilt, Holland (52.1° N, 5.2° E)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	5.0	31	300					2.85
01	4.6	31	300					2.75
02	4.2	31	300					2.80
03	3.9	31	300				2.1	2.80
04	(335)	4.1	31	275	2.8	---	1.8	2.0
05	330	4.7	31	250	3.6	126	2.1	2.6
06	330	5.1	31	230	3.9	120	2.4	3.0
07	330	5.8	30	225	4.2	114	2.8	3.3
08	340	5.8	31	225	4.4	110	3.0	3.5
09	320	6.0	31	215	4.6	110	3.2	3.9
10	350	6.3	31	210	4.7	110	3.4	3.7
11	330	6.3	31	210	4.7	110	3.4	3.8
12	330	6.2	29	210	4.7	110	3.5	4.3
13	335	6.2	31	220	4.7	110	3.4	4.2
14	320	6.2	30	220	4.7	110	3.4	3.8
15	320	6.3	29	225	4.6	110	3.2	3.7
16	300	6.4	30	225	4.4	115	2.9	3.7
17	300	6.4	29	240	4.1	120	2.6	3.9
18	280	6.6	31	260		130	2.2	3.8
19	---	6.6	31	270		---	E	3.3
20		6.7	31	260				2.4
21		6.3	28	270				2.3
22		5.7	30	280				2.80
23		5.3	31	290				2.85

Time: 0.0°.

Sweep: 1.8 Mc to 18.0 Mc in 4 minutes.

Table 17

Pruhonice, Czechoslovakia (50.0° N, 14.6° E)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.2	31	270					
01	4.8	31	265				1.2	
02	4.4	30	260				1.2	
03	4.3	30	275				1.4	
04	---	4.8	30	245	---	105	1.8	2.1
05	330	5.4	28	230	3.9	100	2.3	2.5
06	300	5.6	27	230	4.1	100	2.7	3.3
07	320	6.0	26	215	4.4	100	3.0	3.6
08	325	6.4	27	200	4.6	95	3.2	3.6
09	300	6.6	30	205	4.7	95	3.3	4.0
10	320	6.8	30	205	4.8	95	3.3	3.9
11	330	6.9	27	200	4.8	95	3.4	4.0
12	325	6.7	30	230	4.9	95	3.4	4.0
13	310	6.8	30	215	4.7	95	3.4	3.8
14	300	6.7	31	205	4.6	95	3.3	3.8
15	300	6.8	28	215	4.3	100	3.0	3.6
16	290	6.8	28	230	4.0	100	2.7	3.7
17	(300)	6.8	28	240	---	100	2.4	3.4
18		7.2	29	250		110	1.9	2.7
19		7.0	30	240		---	---	2.5
20		6.8	28	240				2.3
21		6.3	29	<250				2.0
22		5.9	31	260				
23		5.4	30	275				

Time: 0.0°.

Sweep: 1.0 Mc to 18.0 Mc.

Table 14

Churchill, Canada (58.8° N, 94.2° W)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	4.0	24	280			---	6.3	(2.9)
01	4.0	29	290			---	4.8	---
02	3.8	30	275			---	3.4	---
03	3.6	29	300			---	4.0	(2.7)
04	3.7	29	300			2.0	2.4	---
05	400	4.1	28	280	3.3	2.4	3.2	(2.95)
06	440	4.3	25	245	3.6	2.6	3.5	2.6
07	540	4.4	24	240	4.0	3.0	3.7	2.5
08	455	4.7	25	240	4.2	3.3	4.1	2.65
09	450	5.0	25	225	4.3	3.3	3.4	2.7
10	440	5.0	28	215	4.3	3.3		2.75
11	430	5.2	28	210	4.4	3.3		2.65
12	400	5.5	27	205	4.4	3.3		2.7
13	400	5.4	28	210	4.4	3.3		2.8
14	400	5.7	29	210	4.4	3.2		2.7
15	375	5.7	29	220	4.3	3.2		2.8
16	380	5.8	30	230	4.2	3.1		2.8
17	360	5.7	31	230	4.1	3.0		2.85
18	340	5.7	30	250	3.9	2.7	3.2	2.9
19	310	5.3	31	280	---	2.7	3.4	3.0
20		4.8	31	300		2.5	3.3	3.0
21		4.5	29	300		2.4	5.0	2.9
22		4.5	29	285		---	6.0	2.9
23		4.2	26	270			5.0	---

Time: 90.0°W.

Sweep: 1.0 Mc to 17.0 Mc in 16 seconds.

Table 16

Dourbes, Belgium (50.1° N, 4.6° E)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.3	27	280				1.2	2.85
01	4.8	27	295				1.2	2.80
02	4.4	27	285				1.2	2.80
03	4.2	27	280				1.1	2.85
04	---	4.2	26	270		121	1.40	1.5
05	340	4.7	26	245	3.40	113	1.95	2.2
06	320	5.4	26	235	3.80	111	2.40	2.9
07	320	5.9	25	(225)	4.05	109	2.75	3.2
08	330	5.8	27	(225)	4.40	107	3.00	3.5
09	315	6.0	26	(220)	4.50	107	3.20	3.7
10	350	6.2	28	(220)	4.50	107	3.30	3.7
11	335	6.5	27	(230)	4.70	107	3.40	3.8
12	330	6.4	26	(225)	4.70	107	3.45	3.6
13	340	6.4	28	(220)	4.70	109	3.40	3.7
14	340	6.4	29	(225)	4.50	109	3.30	3.6
15	330	6.4	28	<240	4.50	109	3.20	3.6
16	310	6.4	26	<250	4.15	109	2.95	3.7
17	300	6.6	26	<265	---	110	2.50	3.5
18	290	6.6	27	(265)		(119)	2.15	3.2
19	---	6.8	27	260		<131	1.50	2.7
20		6.9	27	255		---	---	2.2
21		6.4	27	250				1.5
22		5.9	27	265				<1.6
23		5.4	27	275				<1.1

Time: 0.0°.

Sweep: 1.0 Mc to 20.0 Mc in 3 minutes.

Table 18

Winnipeg, Canada (49.9° N, 97.4° W)

May 1961

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	3.3	27	300					2.8
01	3.0	27	300				2.3	2.8
02	3.0	26	320				2.6	2.8
03	3.0	25	320				2.7	2.8
04	2.9	25	310				2.2	2.9
05	3.3	25	280			1.8		3.0
06	400	4.0	25	235	3.3	2.2		3.0
07	480	4.2	25	220	3.8	2.5		2.6
08	475	4.7	27	210	4.1	2.9		2.6
09	440	5.0	24	200	4.2	3.1		2.7
10	450	5.2	25	210	4.4	3.2		2.5
11	380	5.5	23	200	4.5	3.4		2.8
12	420	5.5	25	200	4.5	3.5		2.75
13	415	5.4	26	210	4.5	3.5		2.8
14	400	5.5	29	220	4.5	3.5		2.8
15	395	5.5	29	210	4.5	3.3		2.75
16	375	5.6	31	210	4.3	3.1		2.9
17	<335	5.8	31	220	4.1	2.9		2.9
18	310	5.8	31	230	3.9	2.6		2.95
19	290	6.0	30	240	---	2.2		3.0
20	---	5.9	30	250		1.8		3.0
21		5.4	30	260		---		3.0
22		4.4	30	280				2.9
23		3.9	29	300				2.9

Time: 90.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 19

St. John's, Newfoundland (47.6° N, 52.7° W)										May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		4.2 28	270					2.7			
01		3.6 30	290					2.7			
02		3.2 27	295					2.8			
03		3.2 29	280					2.8			
04		3.2 30	260					3.0			
05	---	4.1 31	230	---		2.10		3.0			
06	650	4.6 31	220	3.8		2.60		3.1			
07	390	4.9 31	210	4.0		2.95		2.9			
08	355	5.0 30	205	4.3		3.10		3.1			
09	360	5.2 30	200	4.4		3.40		2.9			
10	375	5.3 31	200	4.5		3.40		2.8			
11	405	5.3 31	200	4.6		3.50		2.7			
12	400	5.5 31	200	4.6		3.50		2.7			
13	370	5.8 30	200	4.6		3.50		2.8			
14	370	5.8 30	200	4.5		3.35		2.9			
15	330	6.0 30	205	4.3		3.10		2.9			
16	320	6.2 30	210	4.1		2.95		2.9			
17	300	6.3 31	230			2.60	3.0	2.9			
18	---	6.5 31	250			---	2.6	2.9			
19		6.7 30	250					2.9			
20		6.3 26	250					2.8			
21		5.8 22	255					2.8			
22		(5.0) 25	270					(2.7)			
23		4.8 26	<280					2.7			

Time: 60.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.

Table 21

Sottens, Switzerland (46.6° N, 6.7° E)										May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2			
00		5.5 26	280					2.85			
01		5.5 27	280					2.80			
02		4.9 26	285					2.80			
03		4.5 27	280					2.85			
04		4.5 29	280					2.80			
05	---	4.4 29	280	---	---	---		2.90			
06	340	4.9 27	250	3.6	120	2.10		3.10			
07	330	5.6 25	240	4.0	110	2.50	3.1	3.10			
08	340	5.9 22	220	4.3	100	2.80		3.00			
09	320	6.1 24	210	4.4	100	3.00	3.6	3.10			
10	325	6.3 21	210	4.5	100	3.20	4.3	3.05			
11	320	6.7 22	200	4.7	100	3.40	4.8	3.00			
12	320	6.7 25	200	4.8	100	3.40		3.00			
13	330	6.7 23	215	4.7	100	3.40		3.00			
14	320	6.8 24	220	4.7	100	3.40		3.10			
15	320	6.7 27	210	4.6	100	3.30	3.5	3.10			
16	320	6.6 25	230	4.5	100	3.10	3.2	3.05			
17	300	6.7 21	235	4.2	110	2.90	3.8	3.10			
18	280	6.8 22	250	3.9	120	2.50	3.7	3.10			
19	---	6.7 26	260		120	1.90	3.6	3.20			
20		6.8 26	250				3.0	3.10			
21		6.6 22	250				3.0	3.10			
22		6.0 25	250				2.8	3.05			
23		5.8 26	270					2.95			

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 23

Wakkanai, Japan (45.4° N, 141.7° E)										May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		5.6 24	300					2.80			
01		5.4 24	300					2.80			
02		5.3 25	295					2.85			
03		5.0 25	280					2.95			
04		4.8 26	285			---		2.90			
05	(355)	5.3 27	260	3.3		2.00	2.6	3.05			
06	320	6.3 27	250	3.8		2.50	3.3	3.10			
07	320	6.3 25	250	4.2		2.90	3.7	3.10			
08	320	6.3 23	240	4.3		3.10	4.0	3.05			
09	335	6.3 21	(240)	(4.6)		3.25	5.0	3.00			
10	360	6.2 22	230	4.7		3.30	4.1	3.00			
11	360	6.1 23	220	4.7		3.30	4.0	2.95			
12	360	6.3 25	230	4.8		3.30	4.2	2.95			
13	360	6.5 26	230	4.8		3.25	4.7	2.95			
14	350	6.3 27	230	4.6		3.20	4.5	3.00			
15	330	6.6 26	235	4.4		3.10	3.5	3.00			
16	315	6.6 26	240	4.2		2.90	3.5	3.10			
17	320	6.8 26	260	4.0		2.40	3.8	3.05			
18		7.0 27	265			---	4.0	3.05			
19		7.5 27	265				(3.7)	3.00			
20		7.5 27	265				(3.3)	2.95			
21		7.0 27	270				(3.2)	2.95			
22		6.4 26	270					2.90			
23		6.0 26	290					2.80			

Time: 135.0°E.

Sweep: 1.0 Mc to 18.0 Mc in 1 minute.

Table 20

Graz, Austria (47.1° N, 15.5° E)										May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2			
00		(5.6) 29	300								
01		(5.2) 29	310								
02		(4.9) 27	300								
03		(4.6) 29	300								
04		4.4 28	310								
05		4.9 29	(265)								
06	340	5.6 28	240	3.7							
07	330	6.1 29	240	4.1		2.9	3.1				
08	340	6.2 28	(245)	4.4	120	3.0	3.4				
09	340	6.1 28	<250	4.6	120	3.1	3.6				
10	340	(6.8) 29	<245	4.6	---	---	3.4				
11	330	7.1 29	<240	4.8	---	---	3.3				
12	350	7.1 30	<270	4.8	---	---					
13	330	>6.9 28	<260	4.8	---	---					
14	330	7.0 29	<260	4.7	---	---					
15	325	7.0 29	<270	4.6	(120)	(3.2)					
16	300	7.0 27	250	4.4	130	3.1	3.5				
17		(7.1) 27	260			(2.8)	3.6				
18		(7.0) 28	260				3.4				
19		>6.8 29	265				3.2				
20		>6.7 30	260				2.8				
21		>5.6 28	270				2.6				
22		(5.9) 25	275								
23		>5.6 29	300								

Time: Local time.

Sweep: 2.0 Mc to 18.0 Mc in 50 seconds.

Table 22

Ottawa, Canada (45.4° N, 75.9° W)										May 1961	
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2			
00		4.0 31	295					---			
01		3.6 29	300					---			
02		3.2 29	290								
03		3.0 29	300								
04		2.8 31	300					---			
05		3.5 31	260				2.0	---			
06	(330)	4.0 31	235	3.4			2.4	3.15			
07	360	4.7 31	225	4.0			2.8	3.2			
08	360	5.0 31	210	4.2			3.0	3.1			
09	395	5.1 31	200	4.5			3.2	3.1			
10	400	5.3 31	200	4.6			3.3	2.9			
11	400	5.6 31	200	4.6			3.4	2.95			
12	380	5.8 31	200	4.7			3.4	3.0			
13	385	5.8 30	200	4.6			3.4	3.0			
14	380	5.8 30	210	4.6			3.4	3.0			
15	370	6.0 31	210	4.5			3.2	3.0			
16	350	6.0 31	220	4.3			3.0	3.0			
17	320	6.2 31	230	4.0			2.8	3.0			
18	290	6.3 31	250	(3.5)			2.3	3.1			
19	---	6.4 31	265				1.9	3.0			
20		6.4 31	250					3.1			
21		6.0 30	260					(3.0)			
22		5.0 31	270					(2.9)			
23		4.6 30	290					(2.9)			

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 24

Rome, Italy (41.8° N, 12.5° E)								May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.7) 27	300				2.6	2.70
01		(5.7) 29	300				2.4	(2.70)
02		5.4 29	300					2.65
03		5.0 30	290					2.70
04		4.8 30	280					2.75
05		5.0 28	270			1.6		2.90
06	---	5.7 29	240	---	120	2.1	2.9	2.90
07	---	(6.3) 29	240	---	110	2.6	3.3	3.05
08	320	6.8 28	240	(4.4) 110	3.0		3.6	3.00
09	360	6.9 27	230	4.6 110	3.2			2.95
10	360	7.1 29	210	4.8 110	3.4			2.95
11	360	7.3 29	210	4.8 110	3.5			2.85
12	360	7.8 28	220	4.9 110	3.5			2.85
13	310	7.9 31	230	4.8 110	3.5			2.90
14	320	(7.8) 31	220	4.8 110	3.5			(2.95)
15	---	7.7 31	240	---	110	3.4		3.00
16	---	7.6 29	240	---	110	3.1	4.7	3.00
17		7.7 29	240		110	2.8	4.6	3.00
18		(7.6) 27	250		120	2.3	4.0	3.00
19		(7.9) 19	260		---	---	4.2	(2.95)
20		(7.9) 15	250				3.4	(3.00)
21		(6.8) 14	250				3.1	(2.85)
22		(6.2) 18	260				2.9	(2.80)
23		(5.9) 23	290				3.2	(2.75)

Table 25

Akita, Japan (39.7° N, 140.1° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		5.6 23	295				(3.0)	2.80	
01		5.5 23	295				(2.9)	2.80	
02		5.2 22	295				(2.2)	2.85	
03		5.0 24	270				(2.2)	2.90	
04		4.8 26	280					2.90	
05	(345)	5.5 29	250	---		E	2.4	3.10	
06		290 6.5	31 24.5	3.7		2.45	3.1	3.15	
07		280 6.7	30 24.0	4.0		3.00	3.9	3.20	
08		300 6.6	28 23.5	4.4			4.9	3.20	
09		325 6.3	25 23.0	4.6		---	4.6	3.05	
10		355 6.6	26 22.0	4.8		---	4.6	2.90	
11		350 6.8	28 22.0	4.8		---	4.5	2.90	
12		345 7.0	28 22.0	4.7		---	4.2	2.90	
13		340 7.4	29 23.0	4.7		---	4.2	3.00	
14		345 7.4	29 22.5	4.6		---	4.0	2.95	
15		320 7.3	29 23.5	4.5		3.25	4.0	3.00	
16		300 7.5	29 24.5	4.2		2.95	3.5	3.10	
17		295 7.5	30 25.0	4.0		2.50	3.9	3.10	
18	(300)	7.6 31	260			E	(3.4)	3.05	
19		7.8 31	255				(2.6)	3.05	
20		7.5 31	250				(3.6)	3.00	
21		6.6 29	260				(4.0)	2.90	
22		6.0 26	290				(3.5)	2.90	
23		5.8 24	295				(3.6)	2.80	

Time: 135.0°E.

Sweep: 1.6 Mc to 20.0 Mc in 20 seconds.

Table 27

Yamagawa, Japan (31.2° N, 130.6° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(6.2) 16	305				(3.2)	(2.80)	
01		6.3 18	300				3.6	2.80	
02		(5.8) 19	285				(3.2)	(2.90)	
03		5.8 21	270				(3.1)	3.00	
04		5.2 23	270				(2.8)	3.00	
05		4.8 26	260				(2.2)	3.00	
06		5.9 29	250			2.00	2.5	3.30	
07	(315)	6.9 29	245			2.60	3.7	3.25	
08	(290)	7.0 29	240	---		3.00	5.2	3.20	
09		335 7.0	28 23.0	4.8		3.30	5.5	3.05	
10		340 7.5	27 22.5	(5.0)		3.40	5.4	2.95	
11		355 7.9	29 24.0	5.2		3.60	5.2	2.80	
12		350 9.0	31 22.0	5.0		3.60	5.4	2.80	
13		350 9.7	30 23.0	5.0		3.65	4.8	2.80	
14		340 10.2	30 24.0	5.0		3.60	4.6	2.90	
15		320 10.4	31 23.0	4.8		3.40	4.1	2.90	
16		395 10.2	31 <24.5	4.6		3.20	4.1	2.95	
17		290 10.3	31 24.5	4.3		2.80	4.2	3.00	
18		300 (10.1)	29 25.5	---		2.20	(4.7)	(3.05)	
19		9.4 29	260				(4.4)	3.10	
20		(8.1) 25	245				(3.2)	(3.10)	
21		(7.2) 24	255				>3.6	(2.90)	
22		(6.6) 21	300				(3.9)	(2.75)	
23		(5.9) 18	315				(3.3)	(2.75)	

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 30 seconds.

Table 29

Baguio, P. I. (16.4° N, 120.6° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		8.4 28	305					2.80	
01		8.0 30	275					3.05	
02		7.2 30	255					3.10	
03		5.8 30	245					3.15	
04		4.8 30	255				2.5	3.10	
05		4.2 29	270				2.7	2.95	
06		5.8 31	270				4.3	3.10	
07	---	7.4 31	255			139 (2.00)	4.9	2.90	
08	---	8.2 31	<250			121 (3.15)	5.6	2.60	
09	---	8.8 31	(230)	---		121 (3.50)	5.6	2.35	
10	(400)	9.4 31	(235)	---		121 (3.60)	5.0	2.25	
11		395 9.8	31 (230)	(5.0)		122 (3.60)	4.0	2.25	
12		405 10.1	31 (230)	(5.0)		(125) ---	4.4	2.30	
13		405 10.4	31 (225)	(5.0)		<129 (3.70)	4.2	2.40	
14		390 10.7	31 (240)	(4.9)		(124) (3.60)	4.2	2.55	
15		370 11.2	31 (240)	---		(125) (3.35)	4.1	2.65	
16		340 (11.5)	31 (245)	---		(125) (3.30)	3.5	(2.70)	
17	---	(11.1) 31	(255)			125 (2.50)	3.7	(2.70)	
18		(10.7) 31	280				3.8	(2.80)	
19		(10.3) 31	280				2.8	(2.75)	
20		(9.7) 31	315					(2.65)	
21		9.5 29	325					2.60	
22		(8.6) 29	345					(2.65)	
23		(8.0) 29	345					(2.60)	

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 26

Tokyo, Japan (35.7° N, 139.5° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		6.1 31	310				4.1	2.70	
01		6.0 31	305				3.8	2.75	
02		5.4 31	295				(3.3)	2.80	
03		5.1 30	290				2.2	2.80	
04		4.8 30	285				2.0	2.75	
05	---	5.5 31	255			(1.90)	2.1	3.05	
06		280 6.5	31 250	---			(2.40)	3.3	3.10
07		280 6.7	29 245	---		(2.80)	4.0	3.05	
08	(310)	7.1 26	(250)	---		3.15	4.8	3.00	
09	<350	6.9 28	245	(4.8)		3.30	6.4	2.90	
10	<345	6.8 29	230	4.9		3.50	5.8	2.85	
11	350	7.2 30	230	5.1		(3.60)	4.6	2.80	
12	345	7.9 31	245	5.0		(3.60)	4.4	2.80	
13	345	8.2 31	245	4.8		(3.60)	4.5	2.85	
14	325	8.4 31	250	4.7		3.40	4.4	2.85	
15	315	8.5 31	245	4.6		3.20	4.3	2.90	
16	305	8.5 31	250	4.3		(2.90)	4.6	2.95	
17	290	8.5 31	250	---		(2.50)	4.4	3.00	
18	280	8.3 31	260	---		---	4.1	3.00	
19		8.3 31	250				(2.8)	3.05	
20		7.4 31	255				(3.5)	3.00	
21		6.3 31	260				(3.4)	2.75	
22		6.1 31	305				(3.5)	2.65	
23		6.0 31	310				(3.9)	2.65	

Time: 135.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 20 seconds.

Table 28

Formosa, China (25.0° N, 121.5° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		>8.2 24	270				2.2	(2.85)	
01		8.1 21	260				(2.7)	2.95	
02		7.7 24	250				(2.8)	3.10	
03		6.6 24	240				(2.6)	3.10	
04		5.6 18	245				(2.6)	3.15	
05		5.0 26	270				(2.6)	3.00	
06		6.6 29	245				3.1	3.25	
07	---	7.2 28	230			(115) ---	(3.6)	3.20	
08	(305)	7.5 28	220	---		(111) ---	(4.2)	3.05	
09	(330)	8.0 28	(220)	---		(109) ---	(4.4)	2.80	
10	355	8.8 28	(210)	(5.0)		<110 ---	(5.2)	2.75	
11	370	>10.0 29	(225)	(5.0)		<113 ---	(5.0)	2.70	
12	360	(11.0) 29	(210)	(5.0)		(111) ---	(5.0)	2.75	
13	340	12.6 29	220	(5.0)		<111 ---	4.4	2.85	
14	320	13.4 30	<230	(4.8)		<110 ---	4.2	2.95	
15	310	13.4 29	225	(4.7)		(111) ---	4.0	3.00	
16	290	13.6 30	<230	(4.5)		<115 (3.00)	3.7	3.00	
17	270	13.2 29	240			---	(3.5)	(3.15)	
18	(260)	(12.5) 29	250				3.2	(3.15)	
19		>9.0 30	240					(2.95)	
20		>9.0 29	250					(2.90)	
21		>8.8 29	270					2.80	
22		8.4 26	300					2.75	
23		8.4 26	295					(2.80)	

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 30

Townsville, Australia (19.3° S, 146.7° E)								May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>3.9	17	250				3.05
01		3.8	17	250				3.15
02		>3.6	23	250				3.10
03		3.7	20	250				3.30
04		3.3	19	250				3.10
05		3.1	25	250				3.10
06		3.3	29	250				3.15
07		>6.4	25	230		2.05		3.50
08		(7.3)	17	230		2.70		(3.60)
09		>7.6	18	220		3.00	3.3	(3.55)
10		8.1	20	210	4.3	3.20	3.7	3.50
11		8.0	24	200	4.4	3.40	3.9	3.35
12		8.0	27	200	4.5	3.50	4.0	3.35
13		8.1	20	210	4.5	3.40	4.0	3.40
14		>7.8	21	210	---	3.30	4.0	3.25
15		7.9	19	210	---	3.10	3.8	3.25
16		7.5	13	230		2.80	3.2	(3.40)
17		7.2	18	230		<2.20	3.5	(3.40)
18		6.8	24	220		<1.70	3.1	3.30
19		>5.3	27	220			2.5	3.20
20		4.3	29	240				3.05
21		4.2	25	260				3.05
22		4.0	21	<270				2.90
23		4.0	22	250				3.20



Table 31

Johannesburg, Union of S. Africa (26.1° S, 28.1° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(3.0)	23	---			<1.5	2.90	
01		3.0	24	---			<1.6	2.95	
02		(3.1)	24	---			1.5	3.00	
03		(3.3)	24	---			1.8	3.20	
04		(3.0)	24	---			1.4	3.25	
05		(2.9)	24	---			<1.2	3.00	
06		(2.8)	24	---			<1.3	3.15	
07		(5.6)	23	220		2.0		3.35	
08	(230)	7.0	23	225		(2.6)		3.50	
09	(245)	(7.9)	23	215		3.0	3.2	3.30	
10	250	9.0	23	210	---	3.2	3.6	3.25	
11	250	9.2	23	200	---	3.3	3.7	3.10	
12	250	9.2	25	205	---	3.4	3.7	3.10	
13	255	8.8	25	205	---	3.4	3.6	3.10	
14	265	9.0	24	210	---	(3.3)	3.6	3.10	
15	250	9.8	25	225		3.1	3.2	3.10	
16	240	9.3	27	230		2.6	3.0	3.25	
17	---	8.5	27	225		2.0	2.2	3.35	
18		6.6	26	210		<1.6	<1.7	3.45	
19		3.7	25	(210)			(1.7)	3.30	
20		(3.6)	24	---			1.6	3.10	
21		(3.6)	24	---			<1.6	3.30	
22		(3.4)	23	---			(1.6)	(3.30)	
23		(3.0)	24	---			<1.6	3.10	

Time: 30.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 33

Mundaring, W. Australia (32.0° S, 116.2° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.4	28	<260				3.05	
01		3.5	28	(250)				3.10	
02		3.6	28	<250				3.10	
03		3.8	28	(240)				3.20	
04		3.8	27	240				3.20	
05		3.5	28	<220				3.35	
06		3.1	29	(235)				3.25	
07		4.5	29	225		1.70		3.40	
08		6.6	29	220		2.40		3.50	
09		7.4	29	215	---	2.75		3.40	
10		8.0	27	220	---	3.05		3.45	
11		8.5	26	210	4.3	<3.30		3.40	
12		8.2	24	200	>4.2	3.30	3.4	3.35	
13		8.6	26	200	(4.3)	3.30		3.20	
14		8.4	26	<215	>4.2	3.20		3.30	
15		8.8	24	220	---	<3.00		3.30	
16		8.5	29	230	---	2.55		3.30	
17		7.7	27	220		2.00		3.40	
18		6.0	27	200				3.30	
19		4.4	28	215				3.30	
20		3.6	28	225				3.25	
21		3.2	26	<240				3.20	
22		3.3	27	(250)				3.00	
23		3.3	26	<260				3.00	

Time: 120.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 18 seconds.

Table 35

Hobart, Tasmania (42.9° S, 147.2° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		2.4	24					(3.00)	
01		2.3	24					(3.00)	
02		2.2	26				3.0	3.00	
03		2.1	27				3.1	3.00	
04		2.2	26					3.05	
05		2.2	25					3.15	
06		2.0	28					(3.10)	
07		3.0	26					3.10	
08		5.2	25					3.60	
09		6.4	26				2.8	3.60	
10		6.8	27				3.2	3.50	
11		(7.3)	29			2.90	3.5	3.50	
12		>7.5	28			3.00	3.6	3.45	
13		(7.8)	29			3.00	3.2	3.40	
14		7.5	29				3.0	(3.55)	
15		7.5	27					(3.45)	
16		>7.5	29					3.50	
17		(6.9)	27					3.40	
18		5.8	27					3.25	
19		>5.0	28					3.30	
20		4.0	26					3.30	
21		3.3	28					3.20	
22		3.0	26					3.10	
23		2.6	24					3.00	

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 32

Brisbane, Australia (27.5° S, 152.9° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		4.2	24				2.0	2.80	
01		4.2	24				2.0	2.75	
02		4.0	25					2.80	
03		4.4	22					2.90	
04		4.2	24					3.00	
05		3.8	24					3.00	
06		3.9	25					3.00	
07		6.2	24					3.35	
08		7.3	25					3.35	
09		8.0	24				3.2	3.40	
10		8.4	24				3.5	3.40	
11		8.0	25			3.30	3.6	3.30	
12		7.9	25			3.30	3.6	3.20	
13		7.9	25			3.30	3.7	3.10	
14		8.6	25				3.7	3.15	
15		8.5	25				3.2	3.25	
16		8.2	24				3.1	3.30	
17		7.3	23				3.2	3.20	
18		5.6	25				2.8	2.95	
19		4.6	26				1.9	2.85	
20		4.5	25					2.80	
21		4.3	23					2.80	
22		4.2	24					2.80	
23		4.2	25					2.80	

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 34

Capetown, Union of S. Africa (34.1° S, 18.3° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		2.8	30	---			<1.6	2.90	
01		2.9	30	---			<1.6	2.90	
02		3.0	30	---			<1.5	2.90	
03		3.1	30	---			<1.5	2.95	
04		3.2	30	---			<1.4	3.00	
05		3.2	30	---			<1.4	3.20	
06		3.0	30	---			<1.4	3.10	
07		3.0	30	225		<1.4	<1.4	3.10	
08		5.8	29	225		2.1		3.45	
09	230	6.8	30	225	---	2.6		3.40	
10	245	7.7	30	220	---	2.9		3.35	
11	250	8.4	30	215	---	3.1		3.25	
12	250	9.0	30	215	---	3.2		3.25	
13	250	8.6	30	210	---	3.2	3.4	3.10	
14	265	9.4	30	220	---	3.1	3.2	3.05	
15	255	9.8	30	230		3.0	3.1	3.15	
16	250	9.8	30	230		2.7		3.25	
17	---	8.5	30	230		2.1		3.35	
18		7.0	30	215		<1.6	<1.6	3.40	
19		3.9	30	210			<1.5	3.30	
20		3.6	30	(215)			<1.5	3.20	
21		3.1	30	---			<1.6	3.30	
22		2.8	30	---			<1.6	3.25	
23		2.8	30	---			<1.5	3.00	

Time: 30.0°E.

Sweep: 1.0 Mc to 17.0 Mc in 7 seconds.

Table 36

Christchurch, New Zealand (43.6° S, 172.8° E)									May 1961
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.9	19	280			<1.8	2.75	
01		3.8	18	(280)			<1.7	2.70	
02		3.6	18	280			<1.6	2.70	
03		3.4	17	270			<1.4	2.75	
04		3.4	18	260			1.6	2.85	
05		3.3	19	250			<1.3	2.90	
06		2.8	15	240			<1.5	3.05	
07		2.9	13	250			<1.7	3.00	
08		4.9	29	230		1.8		3.35	
09	---	6.0	30	230		110	2.3	3.40	
10	(240)	6.4	31	220		105	2.7	3.35	
11	(240)	6.7	29	220	---	105	2.9	3.10	
12	240	7.0	28	210	---	105	3.0	3.20	
13	(240)	7.2	27	210		105	3.0	3.20	
14	(260)	7.3	30	220		105	2.9	3.20	
15	(250)	7.2	29	230		110	2.7	3.25	
16	---	7.3	31	230		110	2.3	3.25	
17		6.7	31	230		---	1.8	3.20	
18		5.9	27	230			<1.4	3.05	
19		(5.3)	27	240			<1.5	3.00	
20		4.8	22	240			<1.7	2.95	
21		4.3	18	260			<1.7	2.80	
22		4.0	17	260			<1.7	2.75	
23		4.1	19	(280)			<1.7	2.70	

Time: 180.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 7 seconds.

Table 37

Juliusruh/Rügen, Germany (54.6° N, 13.4° E)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4 24	300					2.60
01		6.0 25	300			1.0		2.60
02		5.6 26	300			1.1		2.55
03		4.8 29	305			E	1.2	2.60
04	---	4.9 29	300	----		1.40		2.65
05	---	5.2 29	270	----		2.20	2.2	2.70
06	(470)	6.0 29	255	4.1		2.75	2.8	2.80
07	410	6.8 26	240	4.5		3.00	3.2	2.75
08	365	7.4 27	230	4.7		3.30	3.6	2.80
09	350	8.0 26	230	5.0		3.50	3.8	2.80
10	350	8.5 27	230	5.0		3.60	4.0	2.80
11	400	7.8 28	240	5.1		3.70	4.0	2.75
12	380	8.0 27	230	5.1		----	4.0	2.80
13	380	7.5 27	230	5.1		3.70	4.0	2.80
14	360	7.6 24	235	5.1		3.70	4.0	2.80
15	355	7.8 27	230	4.9		3.50	3.5	2.85
16	390	7.5 27	240	---		3.40	3.5	2.80
17	(340)	7.6 27	250			3.15	3.6	2.90
18	---	8.2 26	270			2.75	3.4	2.90
19		8.3 27	275			2.30	3.0	2.90
20		7.8 27	265			1.55	2.1	2.90
21		7.9 28	255				1.8	2.80
22		7.3 27	270					2.70
23		6.7 27	290					2.60

Time: 15.0°E.

Sweep: 0.5 Mc to 20.0 Mc in 20 seconds.

Table 39

Dourbes, Belgium (50.1° N, 4.6° E)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.2 29	290				1.3	2.65
01		5.8 30	300				1.1	2.65
02		5.5 30	300				1.1	2.65
03		5.2 31	300				1.1	2.70
04	---	5.0 30	290			<118 <1.55	1.7	2.80
05	(370)	5.5 30	250	3.50	(113)	2.20	2.4	2.90
06	360	5.9 29	240	4.00	107	2.60	3.0	2.95
07	330	6.8 29	(235)	4.30	105	3.00	3.5	3.00
08	310	7.7 28	(225)	4.60	103	3.20	3.7	3.00
09	325	7.9 28	(220)	4.80	103	3.30	3.9	2.90
10	365	8.2 28	(220)	----	103	3.40	4.0	2.85
11	330	8.0 29	(220)	----	105	3.60	4.0	2.90
12	360	8.1 29	225	5.10	105	3.60	<4.2	2.85
13	340	8.0 28	(230)	5.00	105	3.50	4.2	2.90
14	340	8.2 23	(225)	4.95	105	3.50	3.7	2.90
15	330	7.9 27	(240)	4.60	<107	3.30	3.6	2.90
16	320	7.9 28	240	4.40	107	3.10	3.4	2.95
17	(300)	8.2 29	(250)	----	109	2.80	3.2	2.90
18	---	8.4 29	(260)	----	<112	2.30	2.9	3.00
19		8.4 30	255		<125	1.70	2.8	3.00
20		7.7 29	250		----	----	1.8	2.95
21		7.3 29	260				<1.7	2.90
22		6.8 29	270				<1.7	2.70
23		6.6 30	<300				<1.6	2.70

Time: 0.0°.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 41

Maui, Hawaii (20.8° N, 156.5° W)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.3 29	<290				1.8	2.85
01		7.65 30	285				2.6	2.80
02		7.25 30	(265)				2.0	2.92
03		6.7 31	270					2.85
04		6.2 31	<285					2.80
05	---	5.75 30	(290)					2.70
06	---	5.95 30	260		125	----		2.75
07	(305)	7.05 30	235	---	115	(2.70)	2.9	2.92
08	395	8.5 31	220	5.3	109	3.15	3.8	2.60
09	(530)	9.5 31	<215	(5.4)	107	(3.50)	4.7	2.45
10	390	10.4 31	210	5.6	109	(3.75)	4.5	2.55
11	360	11.3 31	205	5.5	108	3.95	4.4	2.65
12	350	12.0 31	210	(5.6)	109	(4.00)	4.5	2.70
13	340	12.8 31	215	(5.5)	109	4.00	4.4	2.80
14	330	12.9 31	220	(5.4)	109	3.95	4.3	2.90
15	320	12.9 31	220	(5.2)	109	3.75	4.1	2.85
16	310	13.0 31	230	---	109	3.45	4.0	2.90
17	290	13.4 31	<240	---	109	3.00	3.9	3.00
18	270	13.0 31	250		<121	2.30	4.2	3.05
19	---	12.0 31	260		----	----	3.8	3.05
20		10.4 31	260				3.2	2.90
21		9.8 31	<275				2.9	2.75
22		9.0 31	<290				2.4	2.75
23		8.6 30	<300				2.3	2.75

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 38

Lindau/Harz, Germany (51.6° N, 10.1° E)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.60 29	293					2.58
01		6.25 29	295					2.53
02		5.85 30	294					2.52
03		5.74 29	300					2.54
04		5.20 30	312		----	E	2.0	2.64
05	396	5.30 31	272	----	112	1.92	2.9	2.70
06	418	6.00 31	246	3.85	110	2.45	3.5	2.80
07	376	6.64 30	236	4.40	105	2.86	4.0	2.78
08	372	7.50 31	230	4.70	103	3.14	4.4	2.81
09	371	8.30 30	224	4.92	101	3.35	4.8	2.84
10	399	8.58 28	216	5.11	102	3.50	4.7	2.81
11	373	8.75 30	220	5.20	102	3.58	4.8	2.76
12	360	8.39 31	220	5.13	101	3.60	4.9	2.78
13	385	8.16 31	222	5.26	102	3.68	4.8	2.79
14	360	8.30 31	222	5.18	103	3.58	4.5	2.79
15	382	8.05 31	224	5.12	103	3.54	4.3	2.77
16	362	8.05 31	232	4.85	105	3.34	3.9	2.84
17	332	8.18 30	236	(4.70)	107	3.07	4.0	2.83
18	---	8.42 30	250	----	109	2.67	4.0	2.88
19	---	8.58 30	259	----	112	2.22	3.6	2.93
20	---	8.34 30	252	----	----	----	2.9	2.94
21		8.07 30	250		---	E	2.5	2.84
22		7.38 30	264					2.68
23		6.95 31	278					2.60

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 40

White Sands, New Mexico (32.3° N, 106.5° W)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6 27	<310				2.5	2.60
01		5.7 28	293					2.70
02		5.6 29	292				2.5	2.70
03		5.2 27	290				2.2	2.72
04		5.0 29	290				2.0	2.70
05	---	4.9 29	275		118	----	1.8	2.82
06	---	6.15 30	242	----	110	2.40	2.6	3.05
07	(402)	6.9 29	227	----	105	(2.90)	3.4	2.90
08	395	8.0 29	(215)	4.70	101	(3.30)	4.0	2.75
09	386	8.2 26	206	5.00	101	(3.50)	4.0	2.70
10	380	8.2 25	(200)	5.10	102	(3.70)	4.2	2.62
11	367	9.25 26	(205)	5.25	100	(3.90)	4.1	2.68
12	365	9.7 28	215	5.30	100	(3.90)	4.2	2.62
13	350	10.0 29	<221	5.25	100	(3.85)	4.2	2.70
14	335	10.05 28	220	5.15	100	(3.80)	4.1	2.70
15	325	9.9 29	225	5.00	100	3.60	4.1	2.80
16	314	9.45 30	225	4.70	102	3.32	3.9	2.90
17	300	9.4 28	(235)	----	105	(3.00)	3.5	2.90
18	---	8.9 28	245		114	>2.30	3.1	2.95
19		8.5 30	245				2.6	3.05
20		7.3 28	235				3.0	2.90
21		6.4 29	(250)				3.6	2.80
22		5.75 30	<288				2.5	2.72
23		5.7 29	<310					2.65

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 42

Ibadan, Nigeria (7.4° N, 3.9° E)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.8 27	305					(2.70)
01		6.9 29	300					(3.00)
02		6.5 28	270					(3.20)
03		6.0 29	255					3.25
04		4.9 28	235					3.40
05		3.6 28	250					3.20
06		7.6 27	255			2.25		3.35
07		10.6 27	250			3.00		3.20
08		11.9 27	230			3.50		3.05
09		12.7 28	225			3.75	3.9	2.70
10		12.6 28	215			4.00	6.4	2.50
11		12.0 29	205			4.10		2.35
12		11.5 29	205			4.10	8.5	2.40
13		11.7 30	205			4.00	6.1	2.35
14		11.6 31	200			3.90	6.3	2.35
15		11.9 31	210			3.50	4.4	2.40
16		>11.7 31	240			3.20	5.9	(2.35)
17		(12.0) 31	250			2.60		2.40
18		>11.5 31	280			1.55		<2.45
19		(10.3) 29	350					(2.15)
20		9.1 31	355					(2.25)
21		9.0 30	350					----
22		8.6 30	330					----
23		8.7 28	305					----

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 43

La Paz, Bolivia (16.5° S, 68.1° W)

May 1960\*

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	8.5	12	220				3.3	3.15
01	7.9	13	215					3.15
02	7.2	12	220					3.20
03	6.4	13	225					3.30
04	4.85	14	230					3.10
05	4.3	13	250					3.10
06	3.8	12	250				3.7	3.10
07	5.65	12	270		<151	1.70	2.8	2.98
08	9.0	14	240		113	(2.60)	4.2	3.10
09	10.8	13	225		109	(3.15)	5.0	2.90
10	11.25	14	220		---	(3.50)	6.0	2.75
11	---	11.1	13	210	---	(3.70)	7.0	2.65
12	---	>11.45	12	210	---	(3.70)	7.0	2.55
13	---	(11.0)	13	200	---	(3.70)	7.0	(2.55)
14	---	(10.7)	13	210	---	---	7.5	(2.50)
15	---	10.7	13	210	---	---	7.0	(2.48)
16	---	(10.3)	13	230	---	(3.10)	6.0	2.52
17	---	10.1	13	250	---	113	(2.50)	2.60
18	---	9.6	13	270	---	<155	1.80	4.5
19	---	9.1	12	280	---	---	2.8	(2.65)
20	---	9.0	13	265	---	---	3.2	(2.55)
21	---	(9.0)	13	250	---	---	2.5	(2.80)
22	---	8.9	13	230	---	---	3.00	3.00
23	---	8.6	14	225	---	---	3.5	3.10

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

\* Observations taken 17 through 31 only.

Table 45

Buenos Aires, Argentina (34.5° S, 58.5° W)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	6.0	22	290					2.75
01	5.7	22	280					2.75
02	5.5	22	260					2.85
03	4.8	24	255					2.70
04	4.5	24	250					2.95
05	3.3	24	270					2.65
06	3.2	23	295					2.70
07	7.0	25	240					3.20
08	---	>8.8	24	230	---	2.10		3.20
09	(245)	10.2	22	230	111	3.10		3.25
10	245	11.0	23	225	109	---	3.8	3.20
11	250	11.8	25	225	109	---	4.0	3.20
12	240	11.6	20	220	110	---	4.0	3.00
13	(280)	>12.0	23	220	111	---		3.00
14	260	13.2	21	235	111	3.30	3.7	3.00
15	260	>14.0	20	240	113	2.90	3.4	3.10
16	---	>13.0	22	230	115	---		3.20
17	---	11.2	21	215	---	---		3.15
18	---	>9.0	21	210	---	---		3.05
19	---	>9.0	20	230	---	---		3.00
20	---	>9.0	17	220	---	---		(3.05)
21	---	8.6	17	230	---	---		(2.90)
22	---	7.5	19	245	---	---		2.85
23	---	5.9	23	280	---	---		2.70

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 47

Tromsø, Norway (69.7° N, 19.0° E)

December 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	(3.3)	1	---				4.5	
01	(4.0)	1	---				4.2	
02	(4.0)	4	(340)				4.1	---
03	(4.6)	7	(330)				4.1	---
04	(4.6)	11	300				4.2	---
05	(4.4)	16	300				3.2	---
06	(4.1)	17	295				2.7	---
07	(3.5)	17	295				2.3	(2.60)
08	3.2	18	290				1.6	(2.70)
09	4.8	24	270					2.70
10	6.1	27	250		140	1.45		2.90
11	7.4	27	250		---	---		2.95
12	---	7.7	26	245	---	---		2.90
13	(7.6)	22	240	---	---	---	1.9	2.90
14	6.7	18	245	---	---	---	1.8	(2.95)
15	(6.1)	7	250	---	---	---	3.1	(3.05)
16	3.3	10	240	---	---	---	3.1	(2.90)
17	(3.1)	8	(280)	---	---	---	3.4	---
18	(3.4)	8	---	---	---	---	3.5	---
19	(4.4)	4	---	---	---	---	3.8	---
20	(4.0)	1	---	---	---	---	4.7	---
21	(5.3)	3	---	---	---	---	3.9	---
22	(4.1)	2	---	---	---	---	4.1	---
23	---	0	(355)	---	---	---	4.3	---

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 44

Sao Paulo, Brazil (23.5° S, 46.5° W)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	9.8	22	250					3.10
01	9.6	23	255					3.10
02	7.3	25	245					3.15
03	6.6	23	250					3.10
04	4.2	23	275					3.00
05	3.4	24	325					2.80
06	3.2	23	<330					2.70
07	7.4	27	270					3.10
08	9.6	21	270					3.10
09	---	10.5	13	<270				(3.10)
10	(290)	(12.0)	12	---				(3.05)
11	(300)	(12.0)	13	---				(3.00)
12	---	>11.8	4	---				---
13	---	>11.0	3	---				---
14	---	(12.0)	5	---				---
15	(310)	(12.7)	9	---				(3.00)
16	---	(12.6)	12	280				(3.00)
17	---	(13.8)	14	270				(3.05)
18	---	(12.4)	14	250				(3.20)
19	---	(12.0)	17	240				(3.10)
20	---	(10.2)	18	255				(3.00)
21	---	10.5	17	260				(3.00)
22	---	(10.2)	19	250				(3.10)
23	---	>10.0	20	250				(3.00)

Time: 45.0°W.

Sweep: 1.75 Mc to 20.0 Mc in 2 minutes 30 seconds.

Table 46

Concepcion, Chile (36.6° S, 73.0° W)

May 1960

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.2	27	300				2.2	2.70
01	5.1	26	300				2.4	2.70
02	4.7	27	285					2.80
03	4.6	27	280					2.5
04	4.4	26	235					2.4
05	3.3	27	240				2.3	2.70
06	3.4	25	290					2.80
07	6.85	26	240					3.30
08	9.3	26	230					3.55
09	---	9.9	26	230				3.50
10	---	10.85	26	230				3.38
11	235	11.2	26	220				3.40
12	(240)	11.15	26	210				3.9
13	---	12.6	25	220	---			3.25
14	---	13.0	25	230				3.30
15	---	12.1	25	230				3.35
16	---	10.85	26	230				3.30
17	---	9.6	27	220				3.40
18	---	7.8	27	215				3.18
19	---	7.4	25	235				3.00
20	---	7.0	26	235				3.05
21	---	6.5	27	250				2.90
22	---	5.5	27	280				2.72
23	---	5.4	27	315				2.65

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 48

Winnipeg, Canada (49.9° N, 97.4° W)

December 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	3.6	26	280					---
01	3.5	26	290					3.10
02	3.4	22	300					(2.90)
03	3.5	22	300					(2.95)
04	3.6	24	295					(2.95)
05	3.4	22	285					(3.00)
06	3.3	19	(280)					(3.10)
07	3.3	19	280					---
08	4.3	17	260					(3.15)
09	7.0	24	240					3.20
10	8.4	24	240					(3.20)
11	9.8	21	240					---
12	(10.5)	23	245					---
13	(10.2)	17	235					---
14	(10.5)	13	240					---
15	10.2	13	235					---
16	10.3	17	230					---
17	10.0	23	225					---
18	8.8	27	240					---
19	7.2	30	230					3.10
20	5.8	30	240					3.15
21	4.8	29	250					(3.15)
22	4.0	29	265					---
23	3.8	28	270					---

Time: 90.0°W.

Sweep: 1.6 Mc to 20.0 Mc in 15 seconds.



Table 49

Singapore, British Malaya (1.3° N, 103.8° E)

December 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.3	30	260	---		<1.2	2.70
01		9.9	30	260	---		<1.1	2.75
02		8.8	30	270	---		<1.1	2.80
03		8.0	30	270	---		<1.1	2.75
04		7.5	30	250	---		<1.1	2.90
05		6.3	28	235	---		<1.1	3.00
06	---	6.4	29	270	---	115	1.25	2.85
07	---	8.6	30	250	---	120	2.65	2.80
08	---	10.0	29	240	---	115	3.25	2.65
09	---	10.4	31	225	---	110	3.65	2.40
10	655	10.8	31	220	---	110	3.90	2.10
11	---	11.3	30	215	---	110	4.05	2.10
12	---	11.8	30	215	(5.2)	105	4.10	2.15
13	---	12.0	30	210	---	110	4.00	2.15
14	610	12.0	30	210	---	110	3.85	2.10
15	235	12.1	30	215	---	105	3.55	2.10
16	---	12.6	30	245	---	110	3.20	2.20
17	---	12.5	28	260	---	120	2.60	2.20
18	---	11.9	29	295	---			2.20
19	---	11.8	27	370	---			2.20
20	---	11.8	30	360	---		<2.0	2.30
21	---	11.9	30	300	---		<1.6	2.50
22	---	11.2	30	255	---		(1.5)	2.65
23	---	10.2	30	250	---		<1.3	2.65

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 50

Tromsø, Norway (69.7° N, 19.0° E)

November 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1)	6	---			4.0	----
01		(5.1)	5	---	---	---	4.2	----
02		(4.7)	5	(310)	---	---	3.4	----
03		(5.2)	3	(295)	---	---	4.2	----
04		(5.0)	11	300	---	---	4.1	----
05		4.6	14	295	---	---	3.2	(2.55)
06		(4.2)	15	290	---	---	2.9	----
07		(4.0)	15	265	---	---		(2.70)
08		4.5	19	280	---	---	2.2	2.70
09		6.0	22	255	---	---		2.90
10	---	7.2	25	255	---	---		3.05
11	250	8.6	30	(250)	---	---	2.0	3.00
12	245	9.0	27	(255)	---	---		3.00
13	(240)	8.0	27	245	---	---	2.1	3.00
14		6.6	22	245	---	---	2.0	2.95
15		6.6	13	250	---	---	3.0	(2.90)
16		4.6	10	(245)	---	---	3.2	(2.90)
17		4.7	11	(260)	---	---	4.0	(2.80)
18		4.5	10	(280)	---	---	4.0	----
19		(4.0)	8	---	---	---	4.2	----
20		(4.6)	7	(310)	---	---	4.3	----
21		(4.6)	3	---	---	---	4.2	----
22		(4.3)	3	(340)	---	---	3.2	----
23		(4.3)	5	(305)	---	---	4.0	----

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 51

Slough, England (51.5° N, 0.6° W)

November 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.3	27	280			<1.3	2.55
01		3.9	28	<300			<0.9	2.50
02		3.7	28	300			<0.9	2.50
03		3.5	27	300			<0.9	2.55
04		3.3	27	<285			<1.1	2.65
05		3.1	27	240			<1.6	2.70
06		2.9	28	<240			<1.6	2.70
07		4.6	30	<255	---	<1.60	<1.6	2.80
08		7.1	29	235		130	2.05	<2.2
09		(9.5)	30	230		115	2.50	2.6
10		(11.0)	25	230		115	2.75	2.9
11		11.9	29	230		110	2.90	3.0
12		12.0	30	230		110	3.00	3.0
13		11.7	28	230		110	2.95	3.05
14		11.9	30	235		120	2.75	3.10
15		11.6	30	235		<130	2.40	3.15
16		10.7	29	225	---	1.95		3.20
17		9.0	29	215			2.0	3.15
18		7.5	29	<220			<1.6	3.05
19		5.9	28	230			<1.6	3.00
20		5.0	28	<240			<1.6	2.85
21		4.7	29	<280			<1.6	2.65
22		4.3	29	<265			<1.6	2.60
23		4.1	29	<310			<1.6	2.55

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 53

Townsville, Australia (19.3° S, 146.7° E)

November 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>6.5	3	280				
01		>5.7	4	275				
02		>6.0	2	280				----
03		>6.3	4	300				
04		>6.2	6	290				
05		>6.5	7	290				----
06		>6.0	3	250		2.30		----
07	---	>6.5	3	240	---	3.00	3.2	
08	---	(8.8)	6	230	---	3.35	3.6	(2.95)
09	---	>10.9	12	220	---	>3.60	4.2	(2.75)
10	---	(11.1)	15	(220)	---	3.80	4.2	2.75
11	(380)	>12.0	15	<250	---	3.90	(4.2)	2.70
12	340	11.0	16	<245	---	(3.95)		2.70
13	(330)	>12.9	12	---	---	(3.90)	(4.2)	(2.70)
14	(330)	>12.5	12	<250	---	3.85	4.3	(2.75)
15	(350)	(11.8)	9	(240)	---	3.60	4.2	(2.70)
16	---	>11.0	7	(240)	---	3.40	3.9	----
17	---	>10.0	5	(250)	---	2.90	3.5	----
18	---	>11.0	3	275		(2.00)	3.5	----
19	---	>6.1	2	280			2.8	
20	---	>6.0	1	300				
21	---	>6.0	1	320				
22	---	>5.8	1	310				
23	---	(6.1)	1	300				----

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 52

Singapore, British Malaya (1.3° N, 103.8° E)

November 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.6	29	245			<1.1	2.70
01		10.4	30	260	---		<1.1	2.70
02		9.9	30	260			<1.1	2.85
03		8.8	30	250			<1.1	3.00
04		7.6	30	240			<1.1	2.95
05		6.9	30	240			<1.1	2.95
06	---	7.4	30	270	---	----		2.90
07	---	9.8	30	250	---	120	2.80	2.85
08	---	11.0	30	240	---	115	3.40	2.65
09	---	11.4	29	230	---	110	3.75	3.8
10	---	12.0	27	220	---	110	4.00	2.20
11	---	12.4	29	220	---	110	4.15	2.10
12	---	12.4	28	210	---	110	4.15	2.10
13	---	12.3	29	210	---	110	4.10	2.15
14	---	12.9	28	210	---	110	3.90	2.20
15	---	12.9	30	230	---	110	3.60	2.25
16	---	13.0	30	245	---	110	3.10	2.30
17	---	12.9	29	260	---	120	2.45	2.30
18	---	12.6	27	305	---	---	----	2.20
19	---	12.2	28	375			<1.4	2.10
20	---	12.4	28	360			(1.4)	2.35
21	---	12.9	22	310			<1.3	2.60
22	---	12.2	26	250			<1.3	2.70
23	---	11.2	29	235			<1.2	2.75

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 54

Byrd Station (80.0° S, 120.0° W)

November 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(380)	(5.65)	10	310	---	115- 2.60	----
01		(420)	(5.0)	13	340	---	113 (3.00)	(2.55)
02		470	5.8	11	(275)	---	---	2.55
03	---	---	(6.0)	9	<290	---	---	(2.65)
04	---	---	5.1	12	<320	---	---	(2.70)
05	---	375	5.5	13	(310)	---	---	2.70
06	---	375	5.7	16	(270)	---	---	(2.78)
07	---	(530)	5.95	16	<270	4.4	109	2.88
08	---	(330)	(6.1)	21	(255)	---	109	2.80
09	---	405	6.1	21	(260)	4.5	109	2.78
10	---	510	6.4	21	(255)	(4.4)	109	2.62
11	---	420	>6.7	23	<250	4.4	109	2.60
12	---	430	7.0	24	<260	4.4	107	2.62
13	---	440	7.2	23	(260)	4.6	108	2.60
14	---	405	(7.2)	19	<275	(4.4)	107	(2.60)
15	---	380	7.2	19	<270	4.5	(111)>3.00	2.65
16	---	420	6.65	20	<305	4.5	(111)(3.00)	2.70
17	---	(400)	(6.1)	18	285	4.3	(110) 3.15	2.70
18	---	420	(6.3)	22	(280)	4.4	111	(2.60)
19	---	(410)	5.55	16	<275	---	111>2.70	(2.65)
20	---	(480)	(5.85)	18	(290)	---	113	(2.48)
21	---	---	(5.8)	9	<300	---	113 (2.60)	(2.60)
22	---	(390)	(5.9)	13	<300	---	111	(2.55)
23	---	(385)	5.0	10	310	---	112 (2.85)	----

Time: Local.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 55

Slough, England (51.5° N, 0.6° W)								
October 1959								
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.1	29	<290				<1.5	2.55
01	5.1	29	295				1.3	2.55
02	5.0	29	290				1.2	2.60
03	4.6	29	295				<1.1	2.60
04	4.4	30	270				<1.2	2.70
05	3.8	29	<250				2.2	2.80
06	4.0	28	<260				2.2	2.75
07	6.4	30	240				2.1	3.10
08	8.1	29	235				115 2.60	3.20
09	9.3	29	235				105 2.90	3.10
10	10.6	30	230				105 3.10	3.00
11	11.3	31	225				105 3.25	3.05
12	11.7	31	230				105 3.25	3.00
13	11.5	30	230				105 3.20	3.00
14	11.2	29	235				105 3.05	3.00
15	11.0	30	240				105 2.85	3.00
16	10.9	30	240				2.40	3.05
17	10.0	30	235				1.80	3.05
18	9.0	30	230					3.00
19	8.2	30	<240					2.90
20	6.8	30	235					2.90
21	5.8	30	<245					2.75
22	5.4	30	<255					2.55
23	5.2	30	<265					2.50

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 57

Slough, England (51.5° N, 0.6° W)								
September 1959								
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	5.7	26	305				2.0	2.45
01	5.4	25	315				1.3	2.40
02	5.0	24	<320				1.1	2.45
03	4.8	24	310				1.5	2.45
04	4.3	25	300				<1.4	2.50
05	4.0	25	300				2.1	2.60
06	4.9	26	260				2.00	2.90
07	6.1	25	250				115 2.55	3.00
08	6.3	25	235				110 3.00	2.90
09	6.9	29	230	4.7	105	3.30	3.2	2.80
10	505	7.4	29	220	5.2	105	3.50	3.5
11	425	8.2	30	215	5.6	105	3.60	2.80
12	440	8.4	30	220	5.4	105	3.70	2.85
13	---	8.6	30	225	---	105	3.70	2.85
14	---	8.4	29	225	---	105	3.50	2.85
15	---	8.6	30	235	---	105	3.35	2.85
16	---	8.5	29	245	---	105	2.95	2.85
17	---	8.9	29	250	---	115	2.50	2.90
18	---	8.8	29	250	---	<2.00	2.3	2.95
19	---	8.7	29	250	---	---	2.0	2.80
20	---	7.7	29	240	---	---	1.8	2.85
21	---	6.5	28	245	---	---	<1.6	2.70
22	---	6.0	27	255	---	---	<1.8	2.55
23	---	5.9	27	295	---	---	2.0	2.50

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 59

Winnipeg, Canada (49.9° N, 97.4° W)								
July 1959								
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00	4.8	25	300				3.5	
01	4.6	22	330				3.1	
02	4.7	23	350				3.5	---
03	4.6	24	310				3.5	
04	---	4.6	22	300	---	---	---	3.0
05	(470)	4.7	24	290	3.0	120	2.0	(2.8)
06	(500)	5.1	25	260	4.0	110	2.6	(2.5)
07	460	5.4	25	240	4.3	100	3.0	(2.6)
08	500	5.8	22	220	4.7	100	3.4	2.5
09	500	6.0	16	(210)	5.0	100	3.8	(2.5)
10	530	6.2	15	---	5.0	100	---	---
11	C	6.3	15	---	5.0	---	---	C
12	(600)	6.5	13	---	5.0	---	---	C
13	C	6.4	15	---	5.2	---	---	C
14	500	6.6	17	---	5.3	---	---	(2.4)
15	(490)	6.8	17	(220)	5.3	---	3.9	(2.5)
16	450	6.8	20	(220)	5.0	100	3.8	(2.6)
17	410	6.9	23	220	5.0	100	3.4	2.6
18	400	6.9	23	230	4.6	100	3.0	2.7
19	(350)	6.9	23	250	---	110	2.7	(2.7)
20	---	7.0	22	280	---	120	2.2	---
21	---	6.8	22	280	---	---	---	---
22	---	5.9	21	290	---	---	---	---
23	---	5.0	22	320	---	---	3.3	---

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 56

Singapore, British Malaya (1.3° N, 103.8° E)								
October 1959								
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	10.4	26	220	---	---	<1.1	2.75
01	---	9.7	27	250	---	---	<1.1	2.80
02	---	9.3	26	250	---	---	<1.1	2.90
03	---	8.5	28	235	---	---	<1.1	3.00
04	---	7.2	27	230	---	---	<1.1	3.05
05	---	>6.1	29	240	---	---	<1.1	3.15
06	---	7.4	28	260	---	---	---	3.05
07	---	10.4	28	250	---	120	2.80	3.10
08	---	11.4	30	240	---	115	3.40	2.85
09	---	12.3	30	225	---	110	3.70	2.50
10	---	12.7	29	210	---	110	4.00	2.20
11	---	12.9	27	205	---	110	4.10	2.05
12	---	>12.6	26	205	---	110	4.20	1.95
13	---	12.7	29	200	---	110	4.10	2.20
14	---	270	13.0	31	205	---	110	3.85
15	---	240	13.5	31	220	---	110	3.50
16	---	---	13.6	30	245	---	110	3.10
17	---	---	13.5	29	260	---	120	2.45
18	---	---	13.4	30	300	---	---	2.20
19	---	---	13.5	23	380	---	<1.5	2.20
20	---	---	(14.0)	17	340	---	<1.7	(2.50)
21	---	---	>14.0	15	280	---	<1.8	(2.65)
22	---	---	>14.4	18	240	---	<1.3	2.90
23	---	---	11.9	24	210	---	<1.2	2.80

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 58

Slough, England (51.5° N, 0.6° W)								
July 1959								
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00	---	7.1	29	300	---	---	<1.2	2.55
01	---	6.5	29	300	---	---	<0.9	2.50
02	---	6.1	29	300	---	---	<1.0	2.45
03	---	5.7	29	300	---	---	1.00	2.50
04	---	5.7	29	300	---	---	110 1.70	1.8
05	---	6.1	29	260	---	---	110 2.20	2.6
06	---	4.35	6.3	29	250	---	110 2.80	3.2
07	---	4.55	6.7	29	<240	4.7	105 3.20	3.8
08	---	360	7.2	29	225	5.0	100 3.45	4.2
09	---	420	7.2	29	225	5.2	100 3.65	4.4
10	---	450	7.2	27	220	5.4	100 3.80	4.4
11	---	430	7.2	29	210	5.4	100 3.90	4.4
12	---	445	7.6	29	215	5.6	100 4.00	4.4
13	---	450	7.3	29	225	5.5	100 3.95	4.5
14	---	420	7.4	28	220	5.5	100 3.90	4.2
15	---	410	7.4	26	225	5.4	100 3.75	3.8
16	---	395	7.4	27	230	5.1	100 3.60	2.75
17	---	360	7.6	28	240	---	105 3.30	3.6
18	---	---	7.6	27	250	---	110 2.90	3.4
19	---	---	7.6	25	265	---	115 2.40	3.6
20	---	---	7.9	27	275	---	1.80	3.4
21	---	---	7.7	28	270	---	---	2.3
22	---	---	7.7	28	<270	---	<1.6	2.55
23	---	---	7.5	27	<290	---	<1.6	2.55

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 60

Concepcion, Chile (36.6° S, 73.0° W)								May 1959
Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.9	28	280				2.70
01		6.6	27	280				2.80
02		6.15	28	260				2.90
03		5.4	28	260				2.90
04		4.8	28	250				2.90
05		4.2	27	280				2.60
06		4.45	26	265				2.75
07		7.9	27	240		139	2.00	3.20
08		11.3	26	230		109	2.80	3.30
09		12.8	25	230		109	3.20	3.30
10	(230)	13.5	26	230		107	3.45	3.20
11	---	13.1	28	220		109	3.60	3.12
12	---	13.3	28	210		109	3.60	3.00
13	---	14.0	27	230	(111)	3.60		2.95
14	---	14.5	27	230	111	3.38		3.00
15	---	13.7	28	230	111	3.05		3.00
16		12.95	28	230	119	2.40	2.4	3.10
17		>12.0	27	225	---	----	2.2	3.10
18		10.6	29	220			2.5	3.00
19		10.0	29	230				3.00
20		9.1	28	230				3.00
21		8.0	28	240				2.90
22		7.35	28	260				2.70
23		6.9	28	305				2.60

Table 61

Slough, England (51.5° N, 0.6° W)

April 1959

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.5 25	310				<1.1	2.40
01		6.4 28	310				0.9	2.40
02		6.2 28	310				1.0	2.40
03		5.6 29	315				<1.0	2.40
04		5.3 29	300		1.30			2.45
05		5.4 28	290		115 1.60	1.7		2.60
06		6.2 29	255	---	110 2.30			2.70
07	---	7.1 29	245	---	105 2.85			2.75
08	---	7.5 29	235	---	105 3.25			2.75
09	475	8.4 30	230	5.3	105 3.60			2.70
10	465	9.1 29	230	5.4	105 3.75			2.65
11	395	9.8 27	220	5.6	100 3.80	3.8		2.65
12	475	9.9 29	220	5.6	100 3.90	3.9		2.65
13	450	10.0 29	225	5.7	105 3.85			2.60
14	435	9.9 29	230	---	105 3.75			2.65
15	420	10.0 29	235	---	105 3.60			2.65
16	---	9.6 30	240	---	105 3.30			2.70
17		9.8 30	250		110 2.90			2.70
18		9.5 29	250		110 2.35			2.80
19		9.4 29	255		---	1.85	2.1	2.80
20		8.8 28	245				<1.6	2.65
21		7.9 30	260				<1.6	2.55
22		7.1 23	290				<1.6	2.40
23		6.9 27	300				<1.6	2.40

Time: 0.0°.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 63

Ottawa, Canada (45.4° N, 75.9° W)

April 1958

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.2 26	380					---
01		5.1 30	360					---
02		5.0 30	360					(2.5)
03		5.0 28	330					---
04		4.9 28	320					---
05		5.0 29	320			1.8		---
06		6.2 30	280		120 2.2			2.8
07		7.0 30	250	4.8	115 2.9			2.8
08	(570)	7.1 30	240	5.0	110 3.3			2.7
09	540	7.6 30	230	5.8	110 3.6			(2.6)
10	570	8.2 30	220	5.6	110 3.9			(2.5)
11	560	8.6 30	220	5.8	110 4.0			(2.5)
12	500	9.2 29	230	6.3	110 4.0			(2.4)
13	500	9.4 29	230	6.2	110 4.0			2.4
14	490	9.8 29	230	6.0	110 4.0			(2.45)
15	450	9.7 29	240	6.0	110 3.8			2.4
16	460	9.8 30	240	5.5	110 3.4			2.4
17	460	9.8 30	250	4.8	110 3.0			2.5
18	---	9.5 29	270	---	125 2.5			(2.5)
19		9.0 29	280		140 1.8			(2.5)
20		8.5 28	280					(2.5)
21		7.4 28	280					---
22		5.9 27	300					---
23		5.4 28	360					---

Time: 75.0°W.

Sweep: 1.0 Mc to 20.0 Mc in 16 seconds.

Table 65

Svalbard, Norway (78.2° N, 15.7° E)

October 1957

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1 11	290		---	E	2.7	(2.30)
01		4.8 15	300		---	---	2.4	(2.35)
02		4.5 15	305		130	---	2.4	(2.35)
03		(4.5) 20	350		---	1.60	2.2	2.25
04		(4.8) 19	350		120 1.50		2.9	(2.25)
05		(5.1) 21	320		125	---	3.0	2.25
06		(5.4) 15	330		125 (1.60)		3.0	(2.45)
07	---	6.4 15	320		125 2.05		2.9	2.40
08	---	(6.8) 21	300		125 2.05		2.9	2.55
09	(290)	8.7 21	290		125 2.30		2.7	2.60
10	---	8.9 21	265		130 2.30		2.8	2.65
11	---	7.3 19	265		125 2.10		2.9	2.75
12	---	(7.2) 15	260		125 2.45		3.1	2.80
13	---	7.1 21	280		130 2.40		3.0	2.80
14	---	7.3 24	280		135 2.25		2.8	2.80
15	---	7.4 19	280		130 2.30		3.2	2.75
16	---	(7.1) 19	280		130 2.10		3.4	2.80
17	---	7.1 18	270		135	---	4.5	2.80
18		(7.3) 16	270		---	---	4.3	(2.70)
19		7.0 14	280		---	---	3.5	(2.60)
20		(7.6) 15	265		---	---	3.1	(2.65)
21		(7.2) 8	260		---	---	2.8	---
22		6.2 12	270		---	---	2.4	(2.50)
23		7.0 15	290		---	---	2.9	(2.50)

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 64

Svalbard, Norway (78.2° N, 15.7° E)

October 1958

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.3) 11	260		---	---	1.4	(2.60)
01		(4.0) 8	290		---	---	1.9	(2.30)
02		(4.4) 9	325		---	---	1.9	(2.40)
03		(4.6) 11	325		---	---	3.0	(2.20)
04		4.7 13	295		---	---	2.6	(2.40)
05		4.6 13	340		---	---	3.0	2.30
06		(4.1) 13	330		---	---	3.0	(2.50)
07		5.2 11	310		125 1.55		3.2	2.60
08		(6.5) 11	300		---	---	3.2	---
09	---	(10.4) 12	280		125 2.30		3.0	(2.80)
10		8.2 16	265		---	2.05	3.0	2.75
11	(325)	(7.8) 17	260		130 2.25		3.2	2.70
12	---	7.6 16	250		130 2.30		3.0	2.85
13	---	7.2 19	260	---	130 2.45		3.2	2.75
14	---	(8.1) 16	260		135 2.20		3.2	2.85
15	---	6.9 16	270		140 2.30		3.7	2.80
16	---	7.0 16	260		140 2.00		3.9	2.75
17		(7.0) 9	260		140	---	5.4	(2.85)
18		(6.7) 6	265		---	---	3.2	---
19		(6.6) 5	250		---	---	3.2	---
20		(7.4) 6	260		---	---	3.8	---
21		(7.2) 4	255		---	---	3.0	---
22		(5.7) 6	250		---	---	1.4	---
23		(5.1) 5	250		---	---	1.4	---

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 64

Svalbard, Norway (78.2° N, 15.7° E)

March 1958

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.9) 11	290		---	---		---
01		(5.0) 13	295		---	---		(2.40)
02		4.4 18	310		---	---		2.40
03		4.1 16	360		---	---		(2.30)
04		(4.2) 10	330		---	---		(2.35)
05		(5.3) 5	(290)		---	---	(2.9)	---
06		(5.0) 4	---		---	---	(3.0)	---
07		(3.7) 5	(310)		---	---	(2.9)	---
08	---	(4.1) 8	(310)	---	---	---	1.8	---
09	---	>7.0 10	(290)	---	---	---		(2.75)
10	---	7.8 12	(280)	---	---	---		(2.60)
11	---	7.8 10	(260)	---	---	---		---
12	---	(7.2) 11	(275)	---	---	---		---
13	---	(7.2) 9	(280)	---	---	---		---
14	---	(7.1) 11	(285)	---	---	---		(2.75)
15	---	(7.0) 13	280	---	---	---		---
16	---	(7.2) 10	(275)	---	---	---		---
17		(6.9) 5	(270)	---	---	---		---
18		(6.6) 6	(280)	---	---	---	(3.2)	---
19		(6.3) 7	285	---	---	---		---
20		(7.4) 8	270	---	---	---		---
21		(6.8) 11	260	---	---	---		---
22		(5.4) 10	280	---	---	---		---
23		(5.3) 9	280	---	---	---		---

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

Table 66

Svalbard, Norway (78.2° N, 15.7° E)

September 1957

Time	h'F2	foF2-Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.1) 16	290		---	---	2.7	2.40
01		4.6 20	330		---	---	3.0	2.40
02		4.0 18	330		---	---	3.0	2.40
03		4.4 19	325		---	---	3.0	2.40
04	---	5.0 14	320		120	---	3.1	2.40
05	---	5.5 12	325		115	---	3.0	2.50
06	---	6.3 15	310	---	115	---	3.1	2.65
07	---	6.8 16	290	---	115 2.90		3.0	2.75
08	---	7.4 17	285	---	110 2.70		3.0	2.65
09	---	7.4 21	265	---	115 2.80		2.9	2.65
10	---	8.4 22	270	---	110 2.80		3.0	2.60
11	---	7.2 22	265	---	115 2.80		3.0	2.65
12	---	7.0 20	255	---	110 2.80		2.8	2.75
13	---	7.0 20	255	---	115 2.85		2.9	2.80
14	---	6.6 20	265	---	115 2.80		3.1	2.80
15	---	6.8 21	265	---	115 2.65		3.1	2.70
16	---	6.9 21	265	---	115	---	3.0	2.80
17	---	6.8 21	270	---	---	---	3.0	2.80
18	---	6.9 21	275	---	---	---	3.0	2.65
19	---	7.0 24	280	---	---	---	3.0	2.65
20	---	6.7 23	275	---	---	---	2.2	2.60
21	---	6.6 20	260	---	---	---	3.0	2.70
22	---	6.6 18	280	---	---	---	3.0	2.60
23	---	5.6 17	265	---	---	---	2.9	2.60

Time: 15.0°E.

Sweep: 0.68 Mc to 24.6 Mc in 5 minutes, automatic operation.

US-COMM-NBS-BL



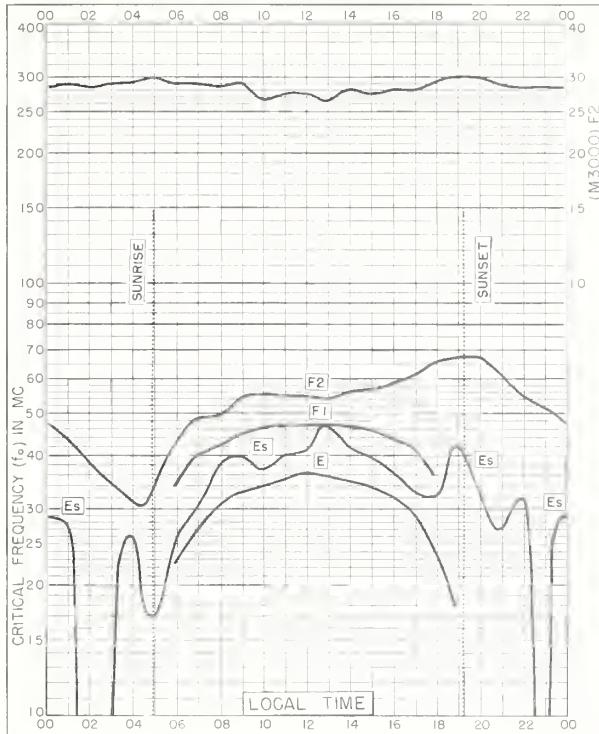


Fig. 1. WASHINGTON, D. C.  
38.7°N, 77.1°W

JULY 1961

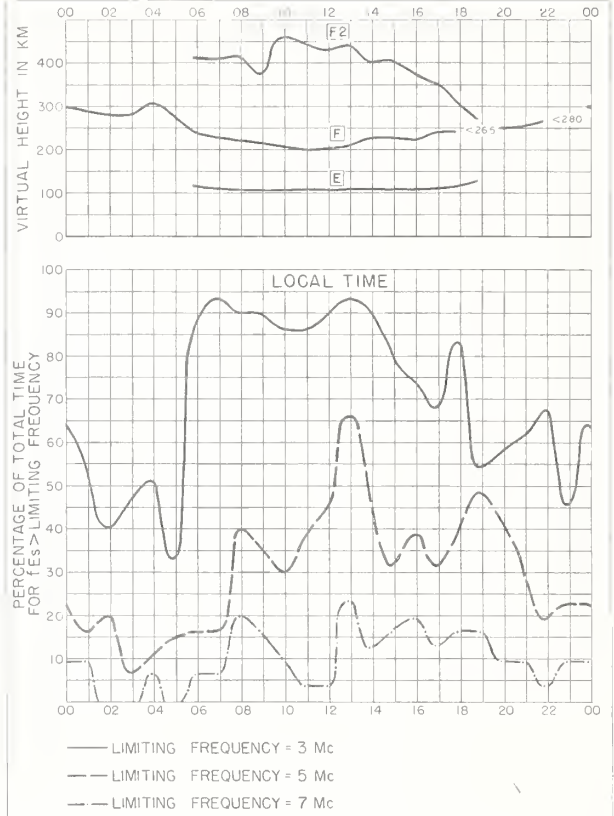


Fig. 2. WASHINGTON, D. C.

JULY 1961



Fig. 3. HUANCAYO, PERU  
12.0°S, 75.3°W

JULY 1961

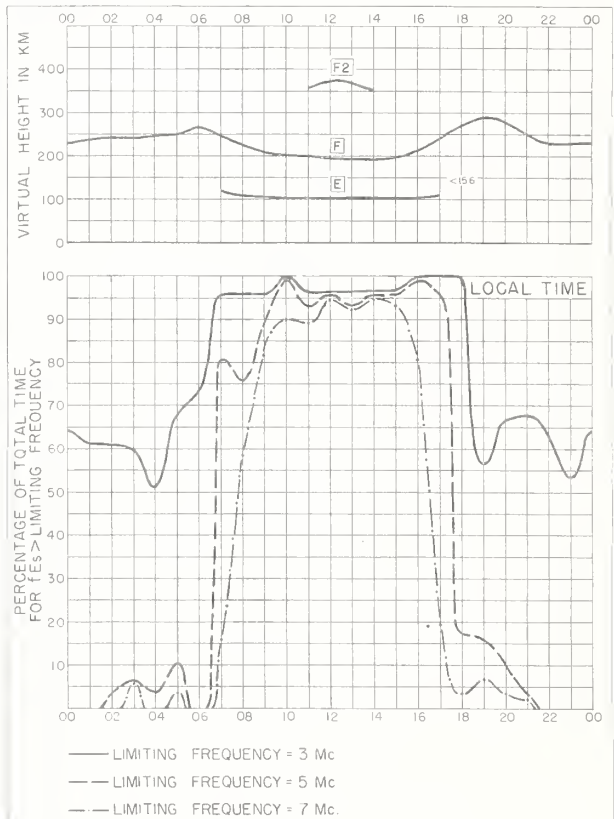


Fig. 4. HUANCAYO, PERU

JULY 1961



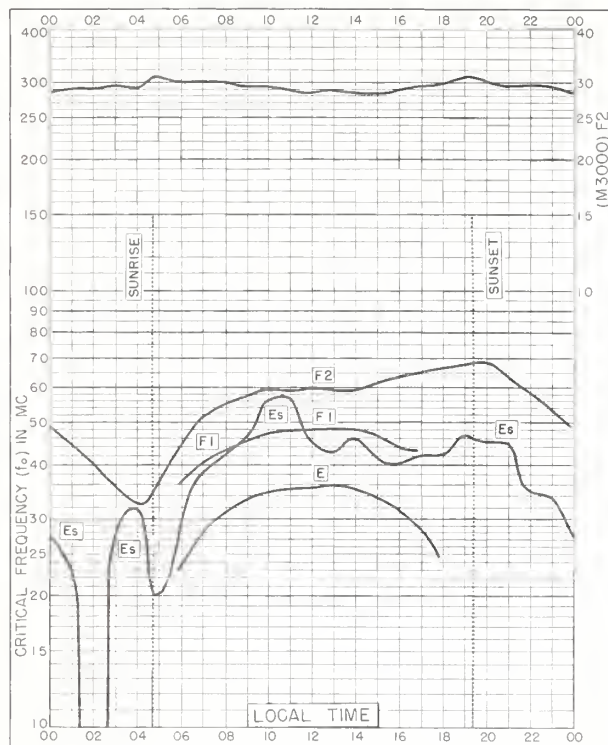


Fig. 5. WASHINGTON, D. C.  
38.7°N, 77.1°W

JUNE 1961

NBS 503

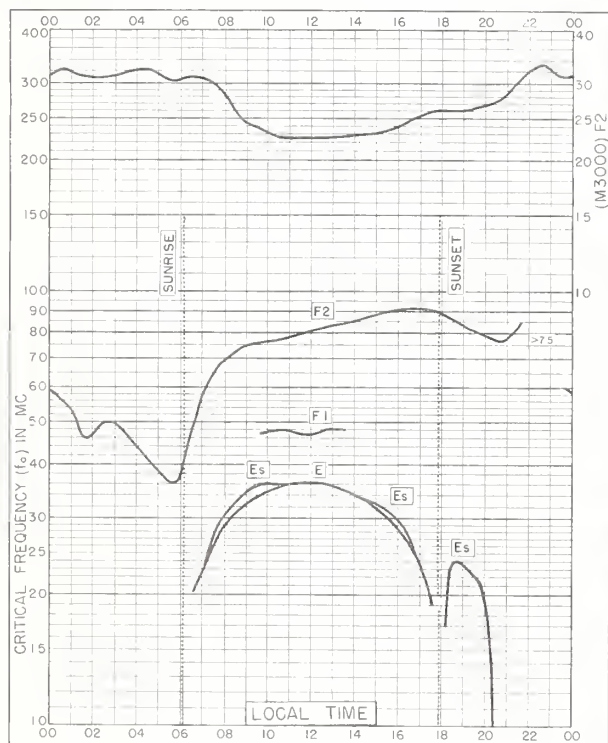


Fig. 7. TALARA, PERU  
4.6°S, 81.3°W

JUNE 1961

NBS 503

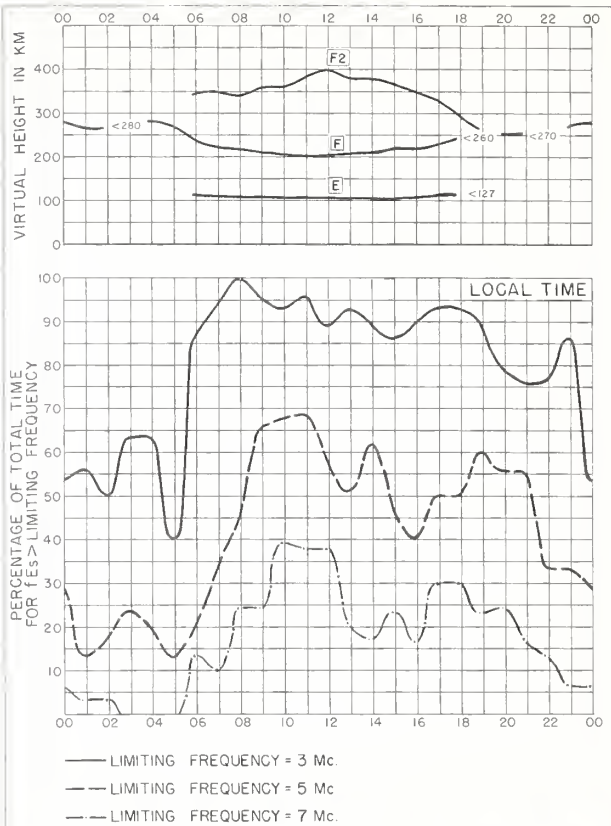


Fig. 6. WASHINGTON, D. C.

JUNE 1961

NBS 490

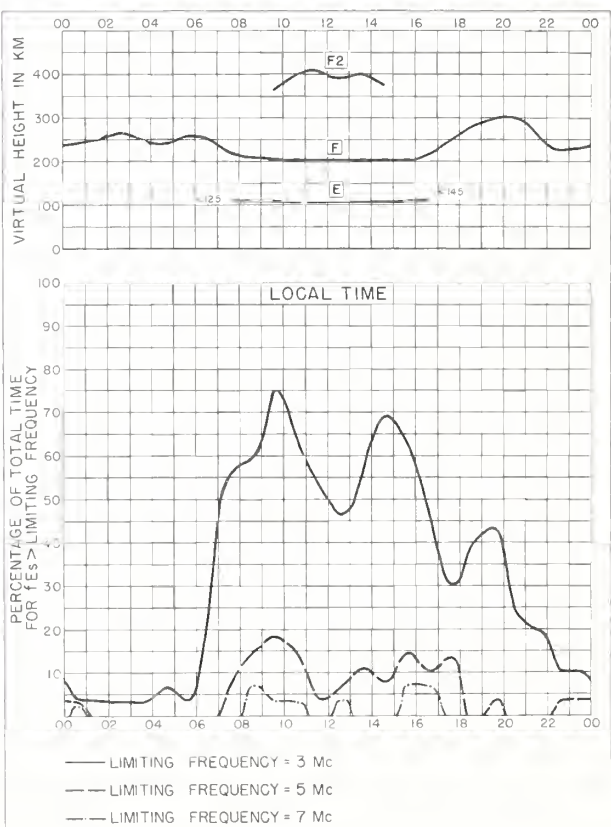


Fig. 8. TALARA, PERU

JUNE 1961

NBS 490



Fig. 9. HUANCAYO, PERU  
12.0°S, 75.3°W

JUNE 1961

NBS 505

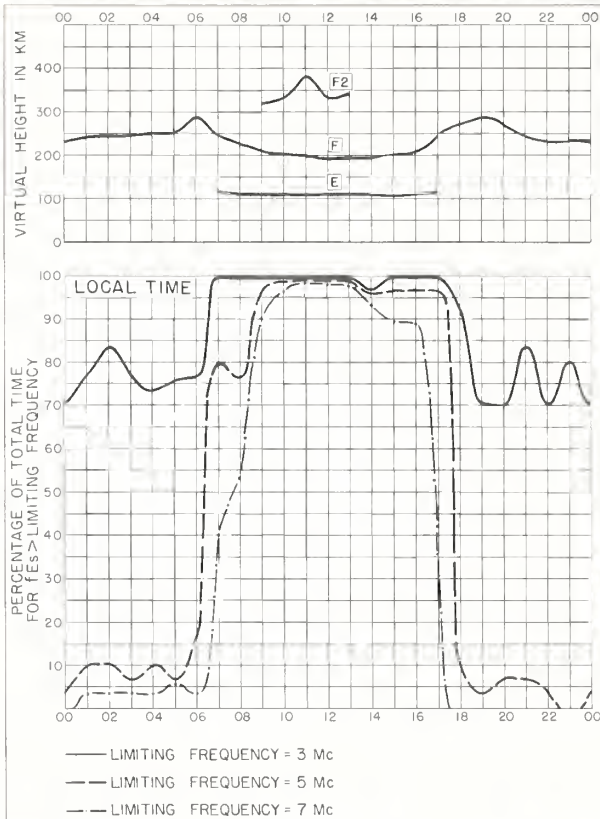


Fig. 10. HUANCAYO, PERU

JUNE 1961

NBS 490

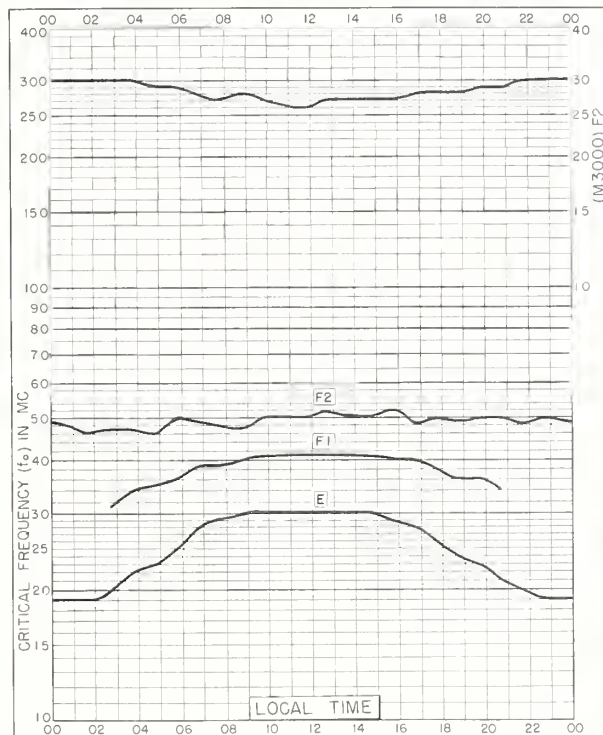


Fig. 11. RESOLUTE BAY, CANADA  
74.7°N, 94.9°W

MAY 1961

NBS 505

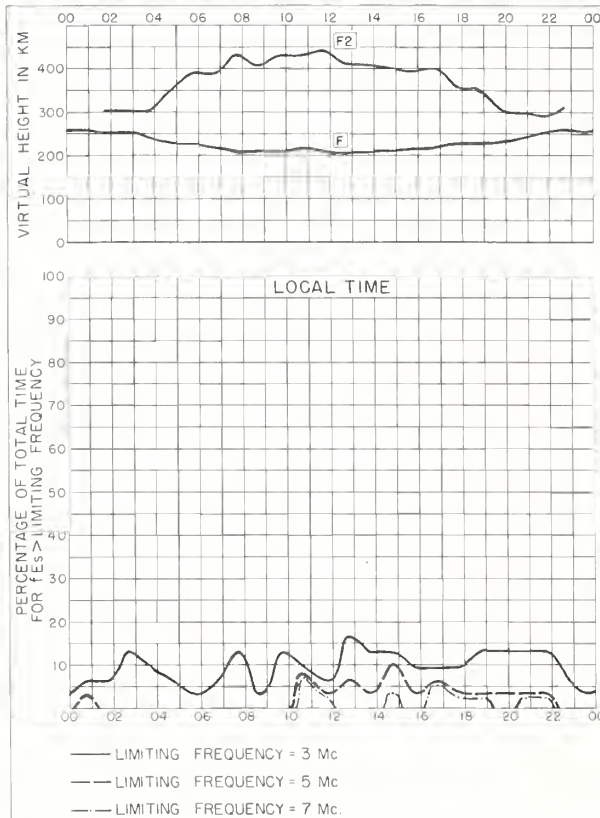


Fig. 12. RESOLUTE BAY, CANADA

MAY 1961

NBS 490

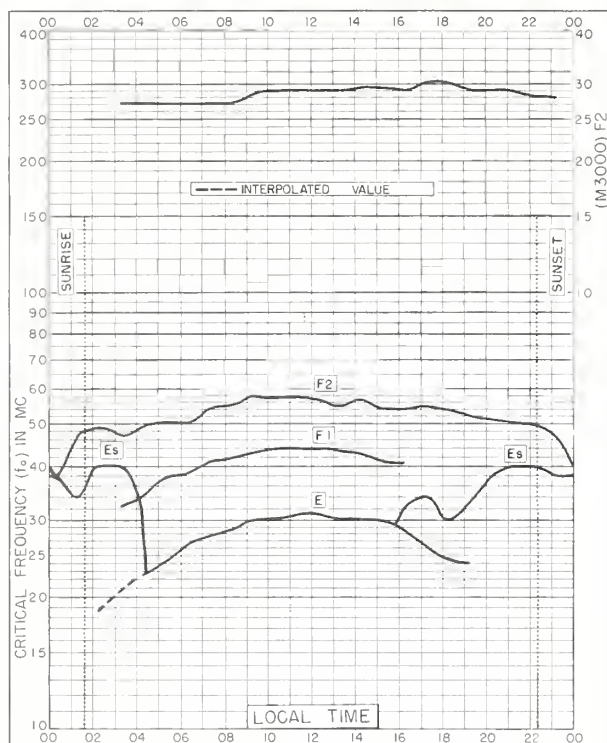


Fig. 13. TROMSØ, NORWAY  
69.7°N, 19.0°E

MAY 1961

NBS 503

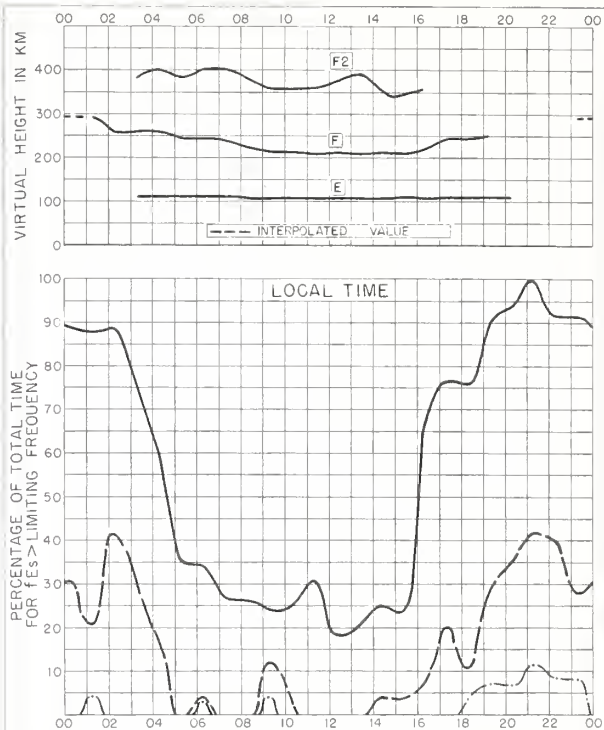


Fig. 14. TROMSØ, NORWAY

MAY 1961

NBS 490

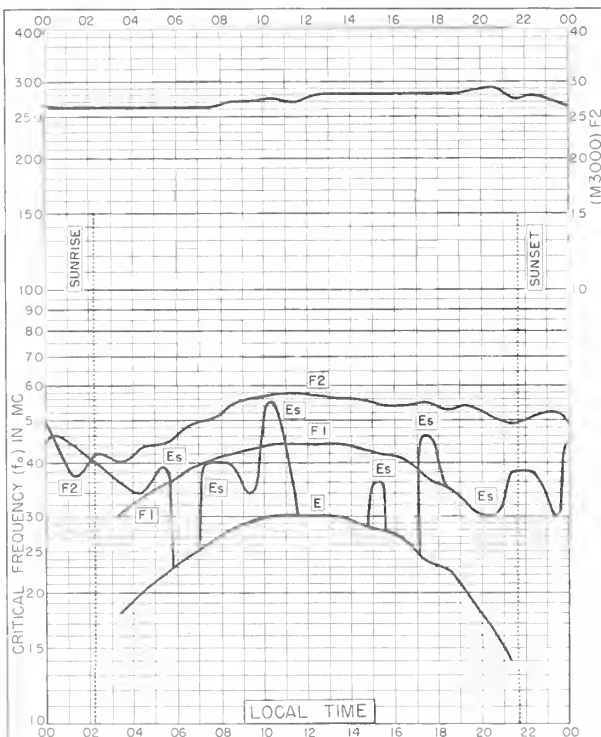


Fig. 15. KIRUNA, SWEDEN  
67.8°N, 20.4°E

MAY 1961

NBS 503

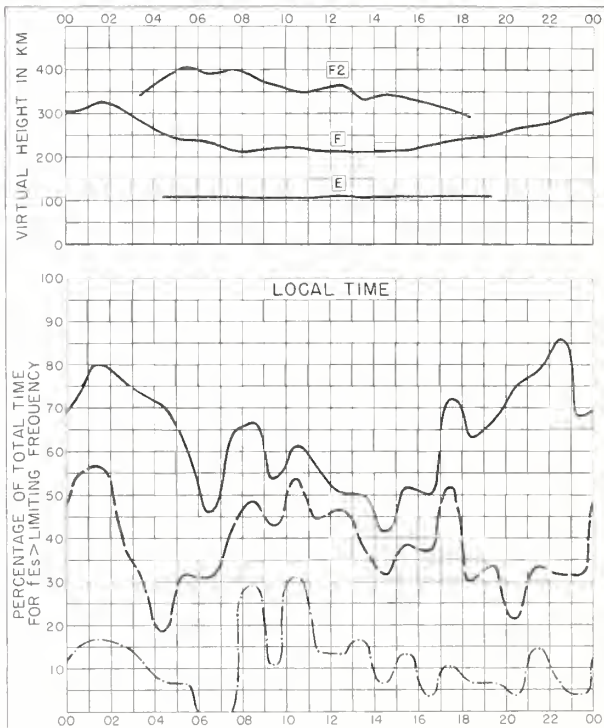


Fig. 16. KIRUNA, SWEDEN

MAY 1961

NBS 490



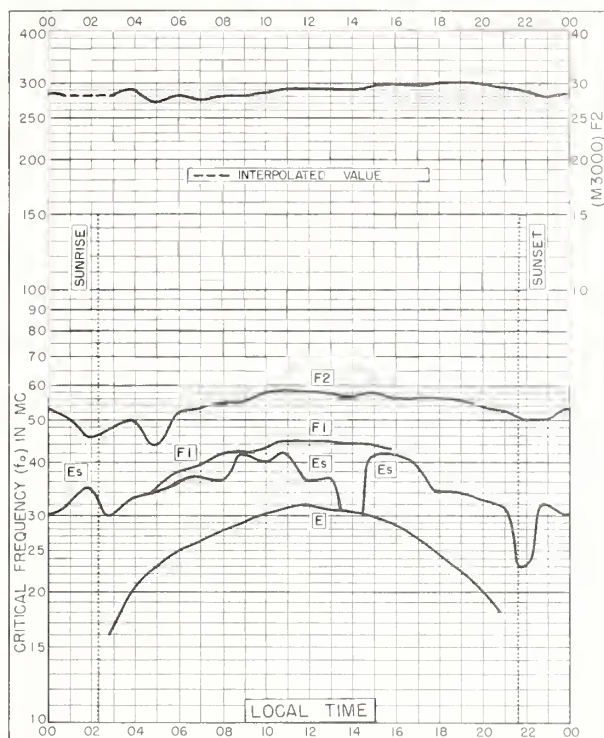


Fig. 17. SODANKYLA, FINLAND  
67.4°N, 26.6°E

MAY 1961

NBS 503

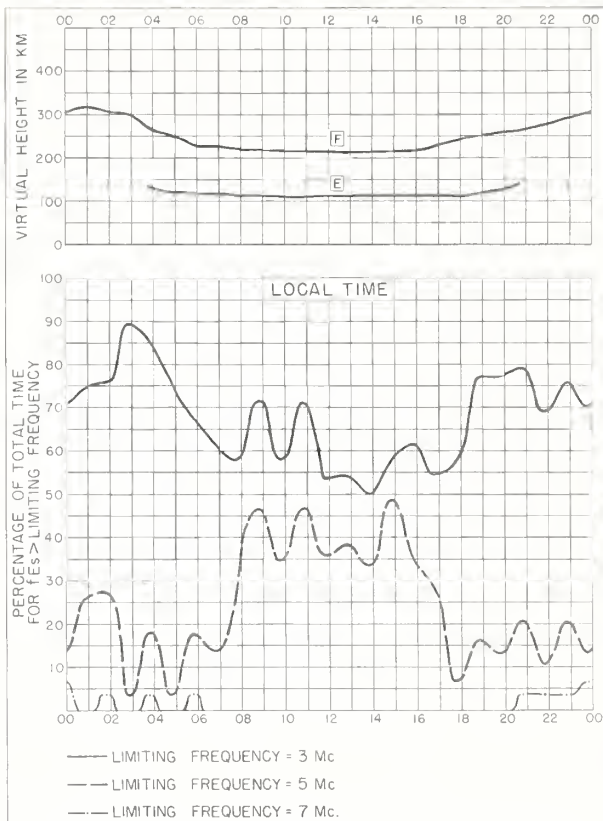


Fig. 18. SODANKYLA, FINLAND

MAY 1961

NBS 490

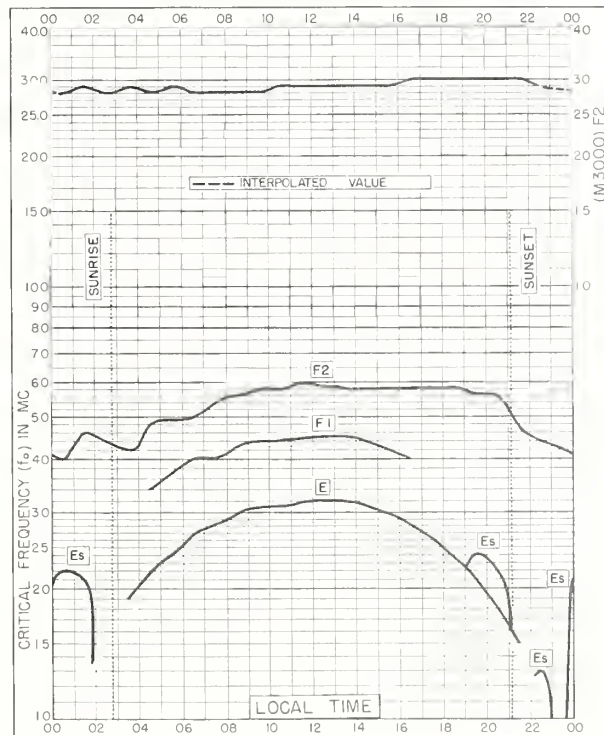


Fig. 19. LULEA, SWEDEN  
65.6°N, 22.1°E

MAY 1961

NBS 503

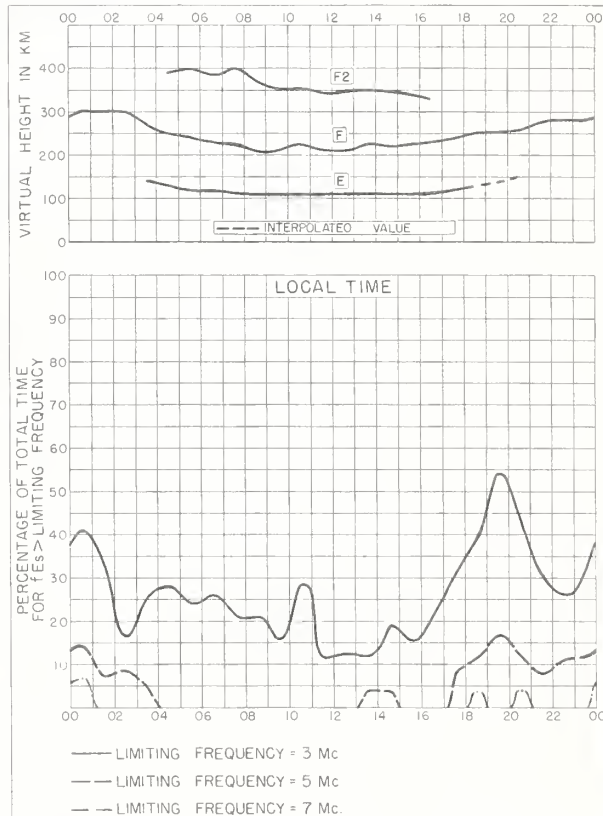


Fig. 20. LULEA, SWEDEN

MAY 1961

NBS 490

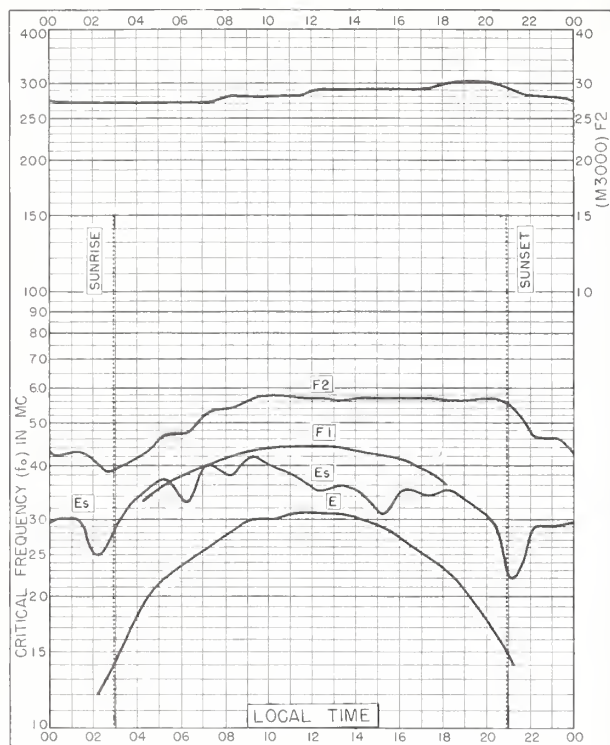


Fig. 21. LYCKSELE, SWEDEN  
64.6°N, 18.8°E

MAY 1961

NBS 503

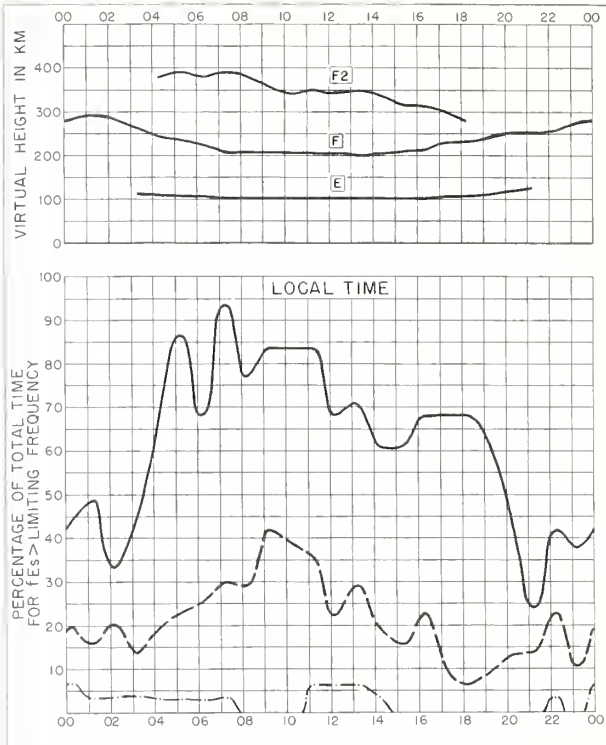


Fig. 22. LYCKSELE, SWEDEN

MAY 1961

NBS 490

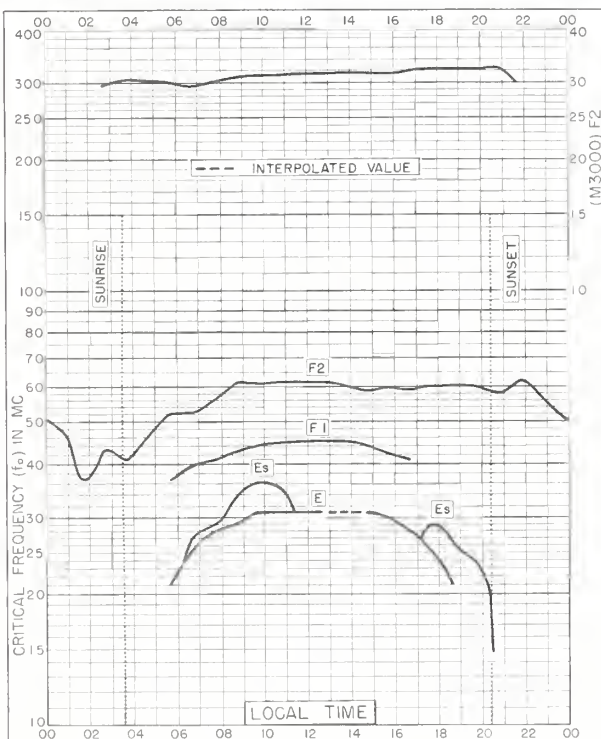


Fig. 23. NURMIJARVI, FINLAND  
60.5°N, 24.6°E

MAY 1961

NBS 503

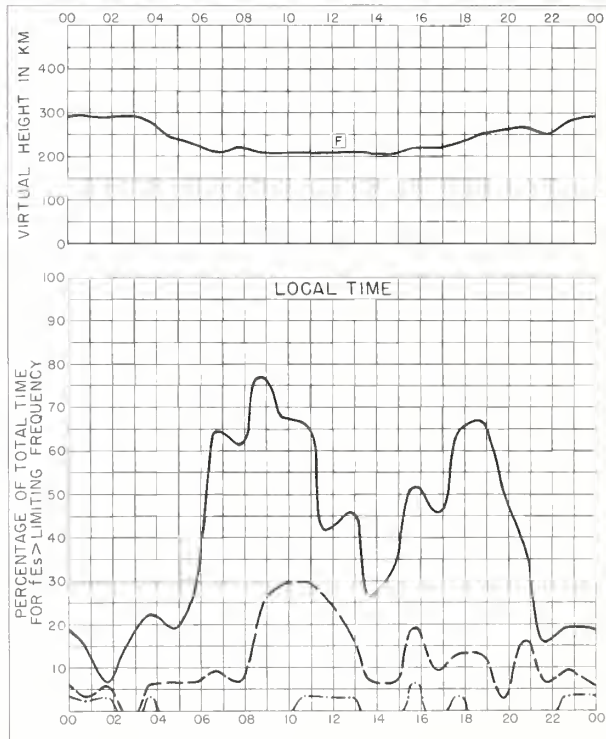


Fig. 24. NURMIJARVI, FINLAND

MAY 1961

NBS 490

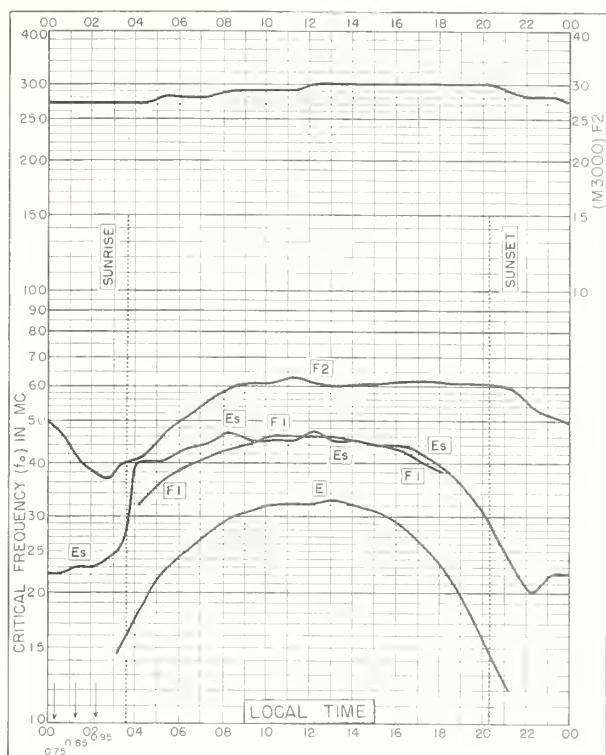


Fig. 25. UPSALA, SWEDEN  
59.8°N, 17.6°E

MAY 1961

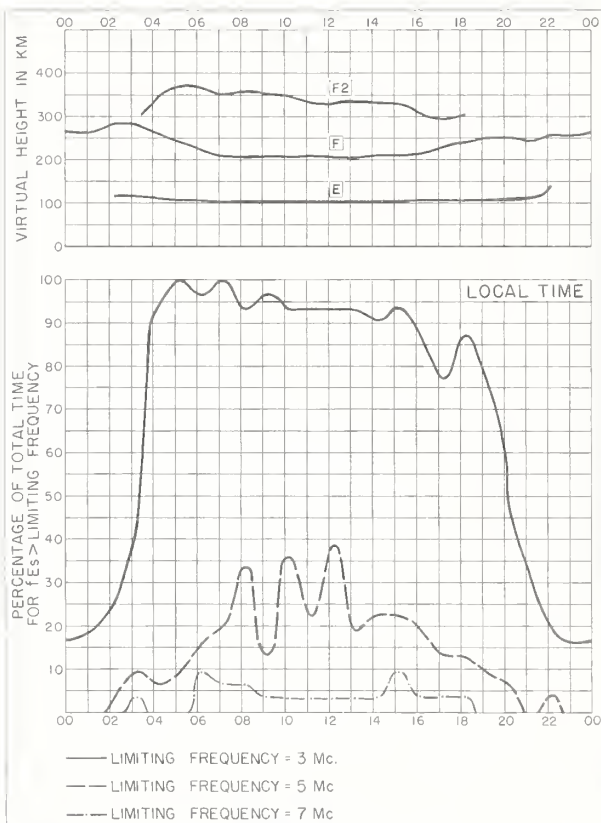


Fig. 26. UPSALA, SWEDEN

MAY 1961

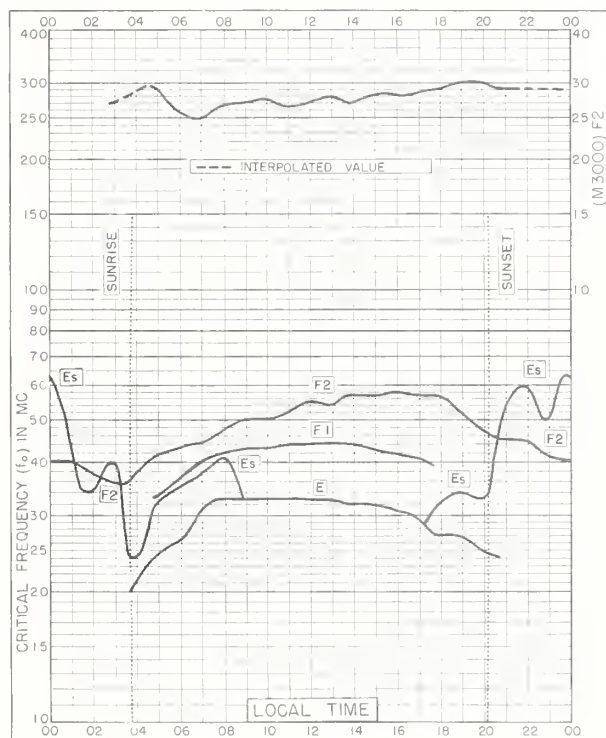


Fig. 27. CHURCHILL, CANADA  
58.8°N, 94.2°W

MAY 1961

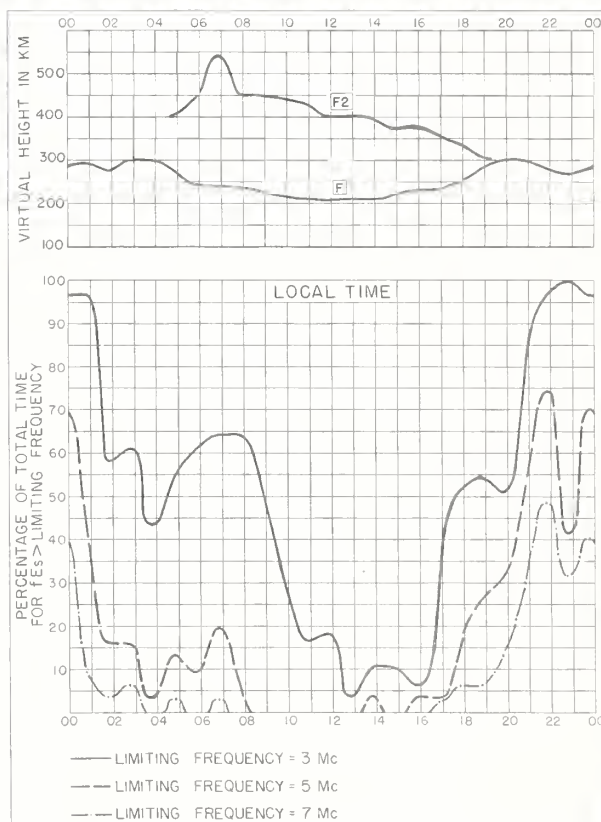


Fig. 28. CHURCHILL, CANADA

MAY 1961



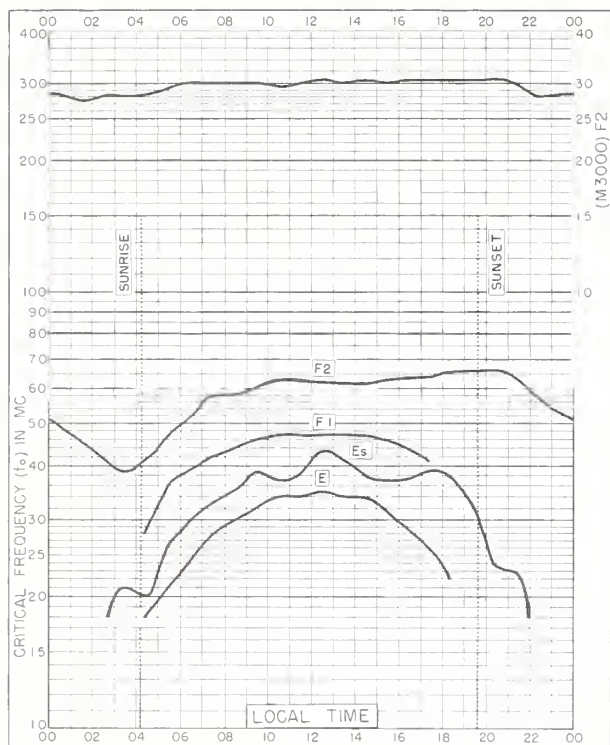


Fig. 29. De BILT, HOLLAND  
52.1°N, 5.2°E

MAY 1961

NBS 502

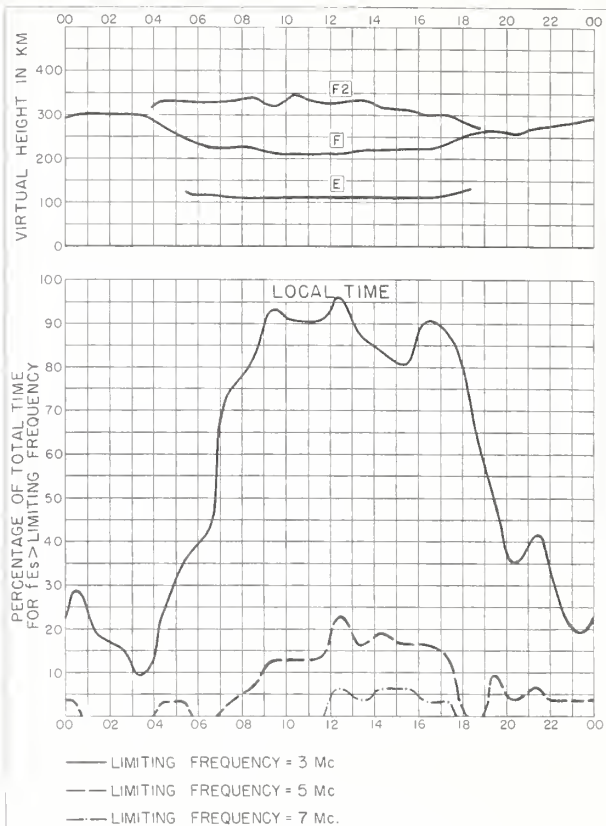


Fig. 30. De BILT, HOLLAND

MAY 1961

NBS 490

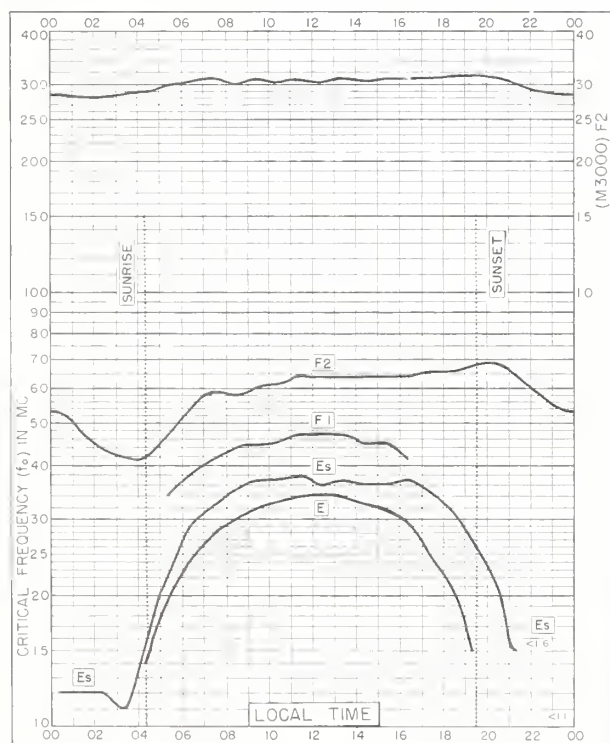


Fig. 31 DOURBES, BELGIUM  
50.1°N, 4.6°E

MAY 1961

NBS 503

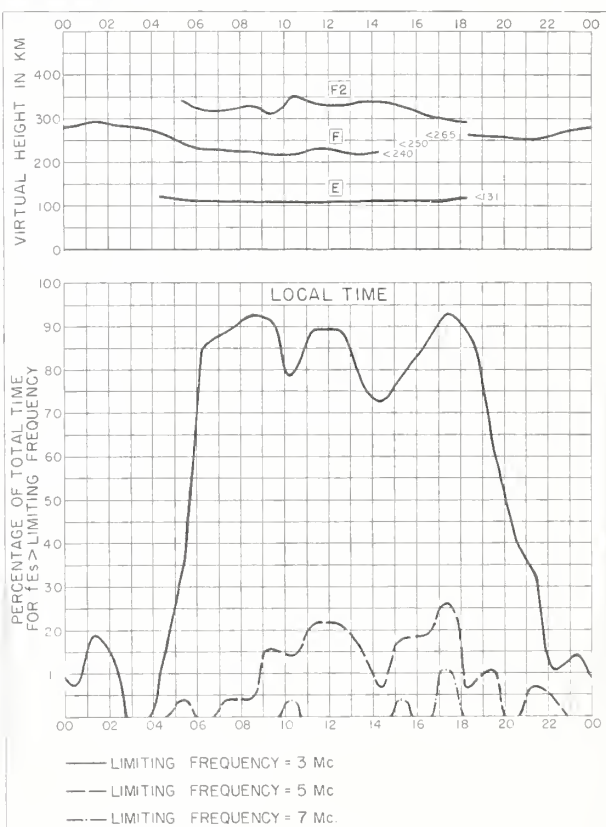


Fig. 32. DOURBES, BELGIUM

MAY 1961

NBS 490



Fig. 33. PRUHONICE, CZECHOSLOVAKIA  
50.0°N, 14.6°E  
MAY 1961

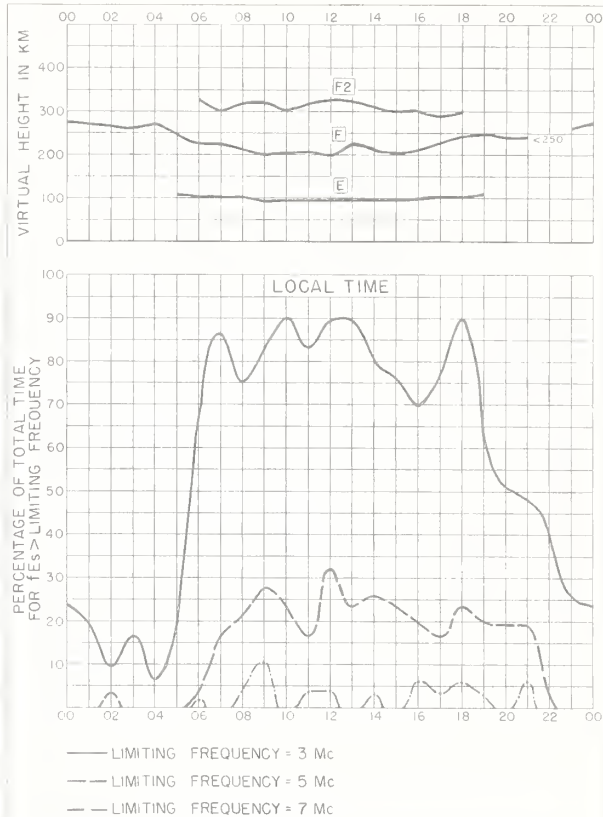


Fig. 34. PRUHONICE, CZECHOSLOVAKIA MAY 1961

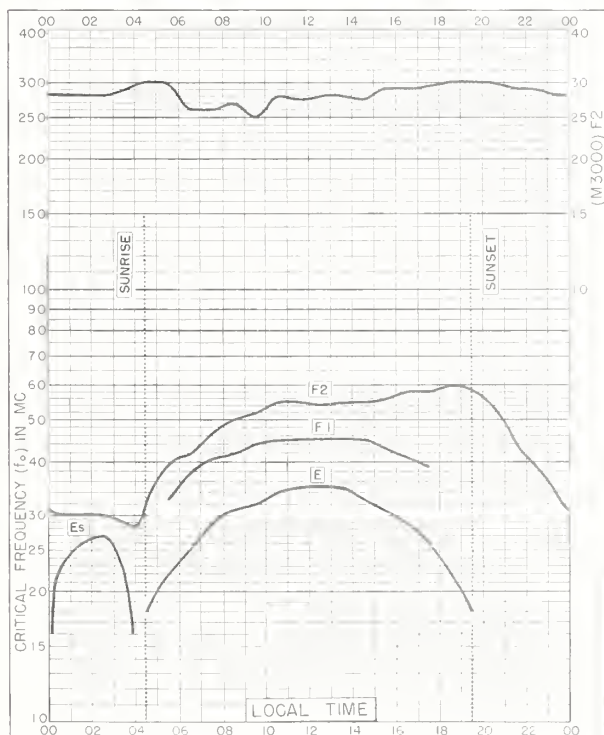


Fig. 35. WINNIPEG, CANADA  
49.9°N, 97.4°W  
MAY 1961

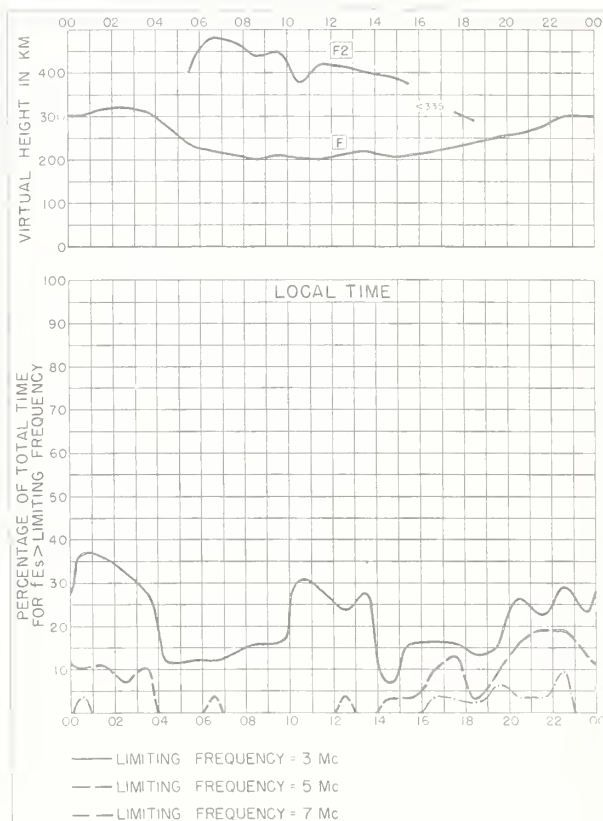


Fig. 36. WINNIPEG, CANADA MAY 1961

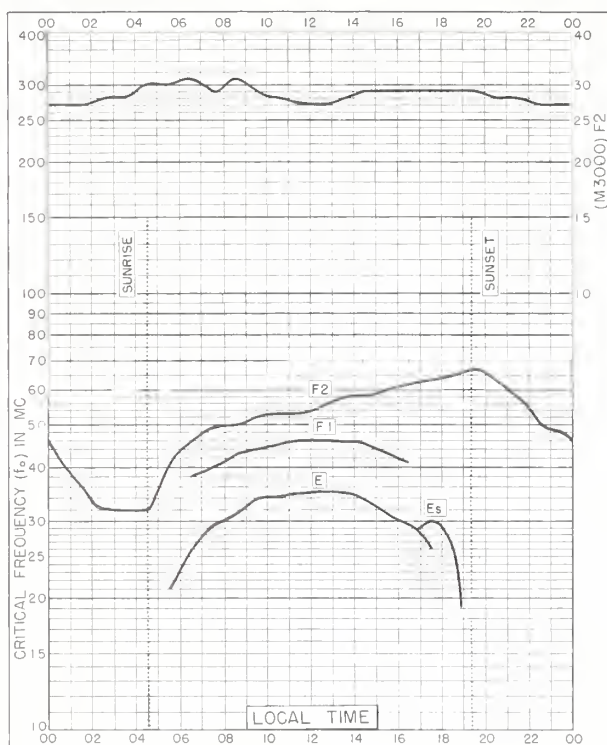


Fig. 37. ST. JOHN'S, NEWFOUNDLAND  
47.6°N, 52.7°W

MAY 1961

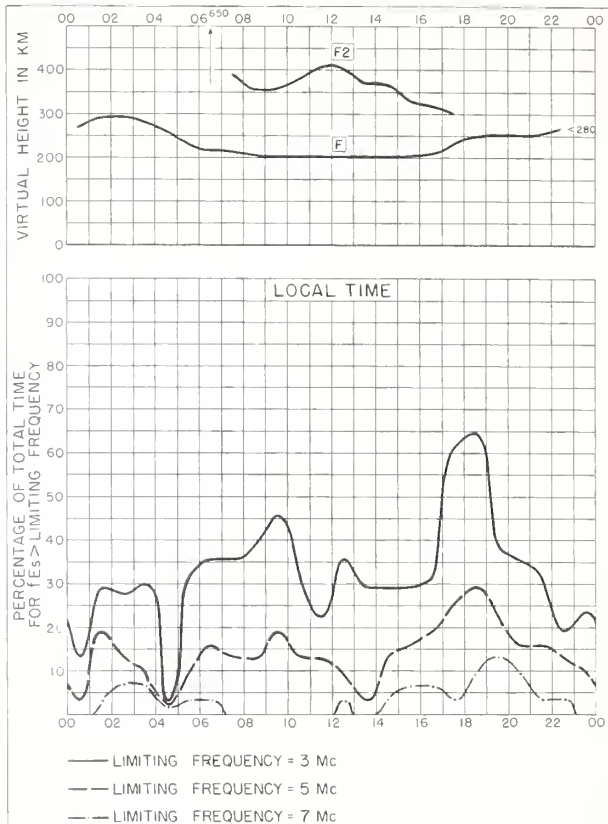


Fig. 38. ST. JOHN'S, NEWFOUNDLAND MAY 1961

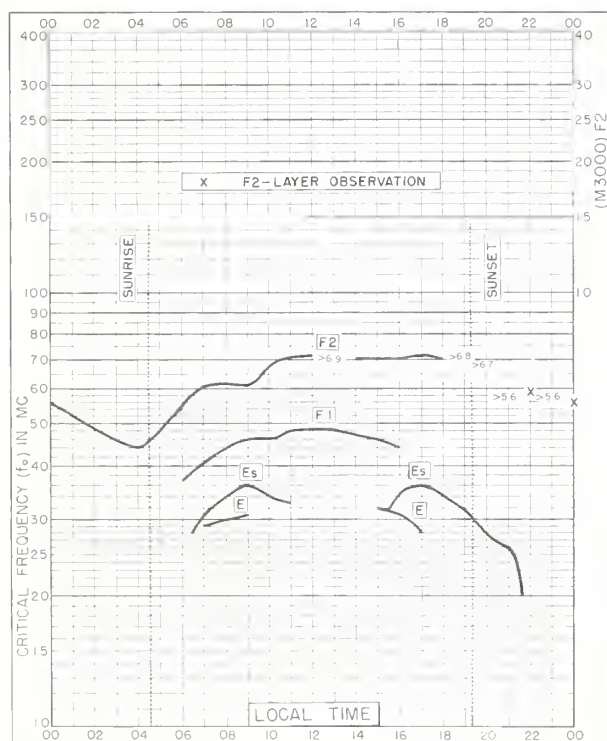


Fig. 39. GRAZ, AUSTRIA  
47.1°N, 15.5°E

MAY 1961

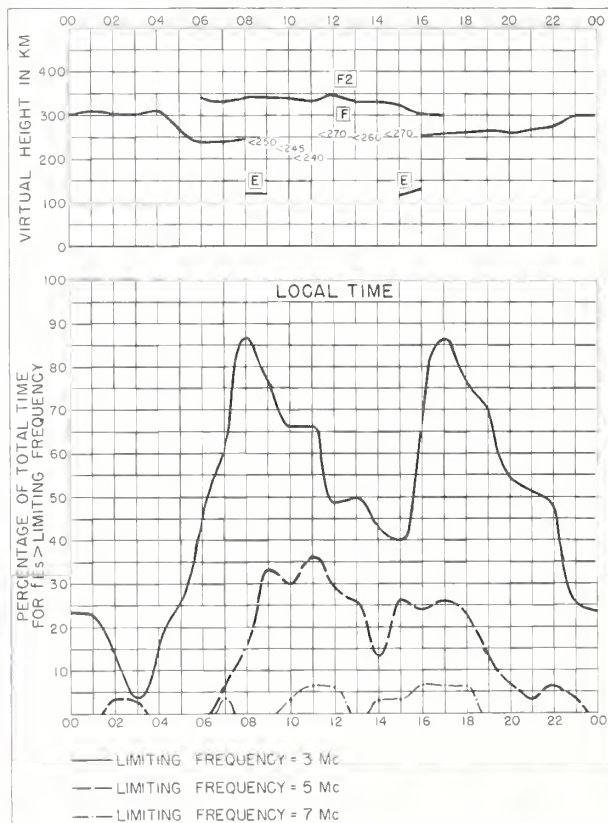


Fig. 40. GRAZ, AUSTRIA

MAY 1961



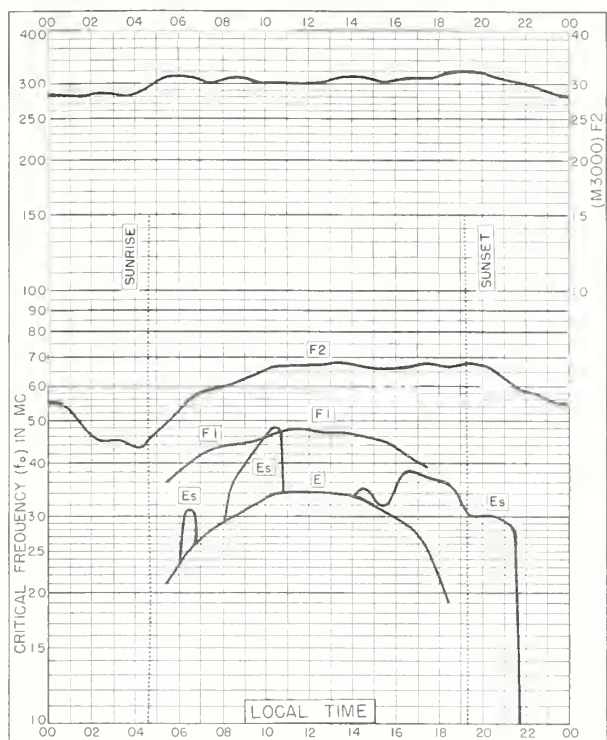


Fig. 41. SOTTENS, SWITZERLAND  
46.6°N, 6.7°E

MAY 1961

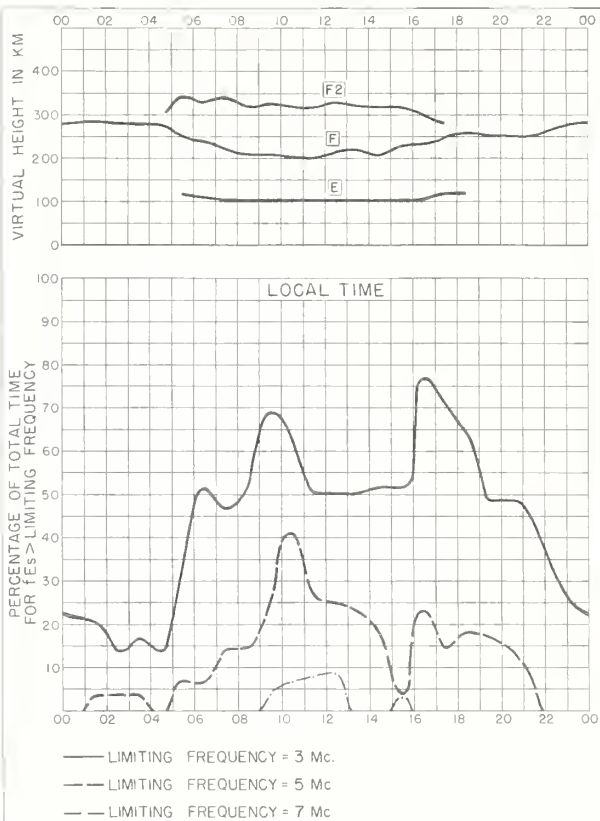


Fig. 42. SOTTENS, SWITZERLAND

MAY 1961

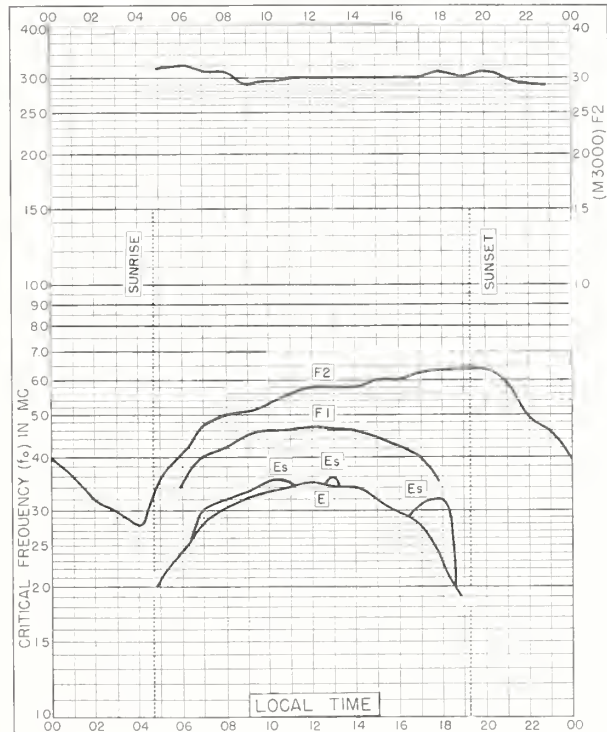


Fig. 43. OTTAWA, CANADA  
45.4°N, 75.9°W

MAY 1961

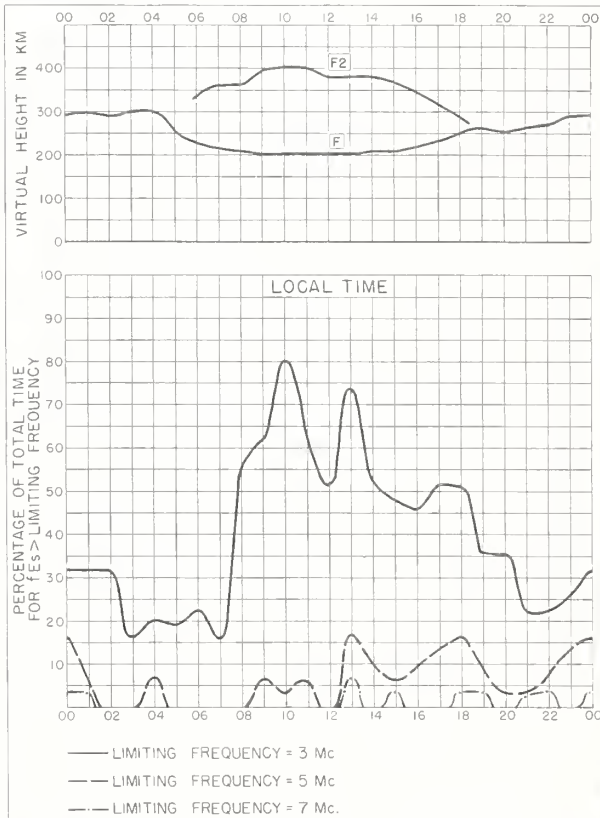


Fig. 44. OTTAWA, CANADA

MAY 1961



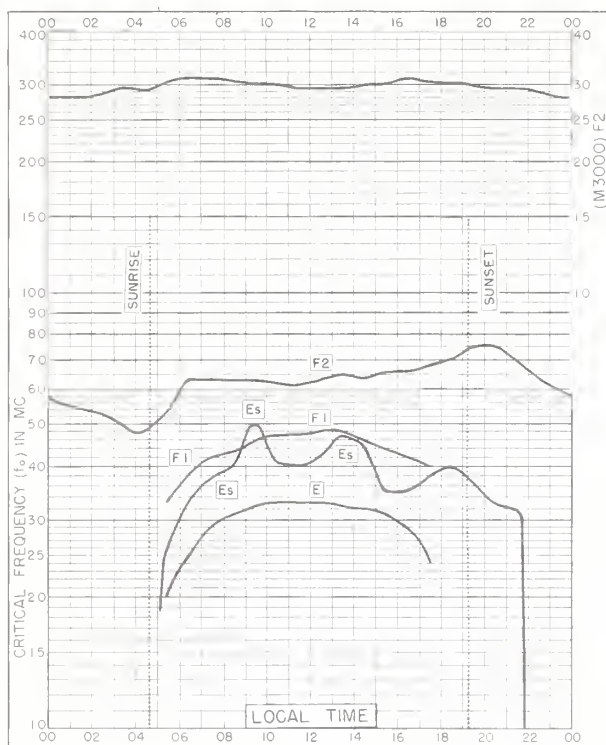


Fig. 45. WAKKANAI, JAPAN  
45.4°N, 141.7°E

MAY 1961

NBS 503

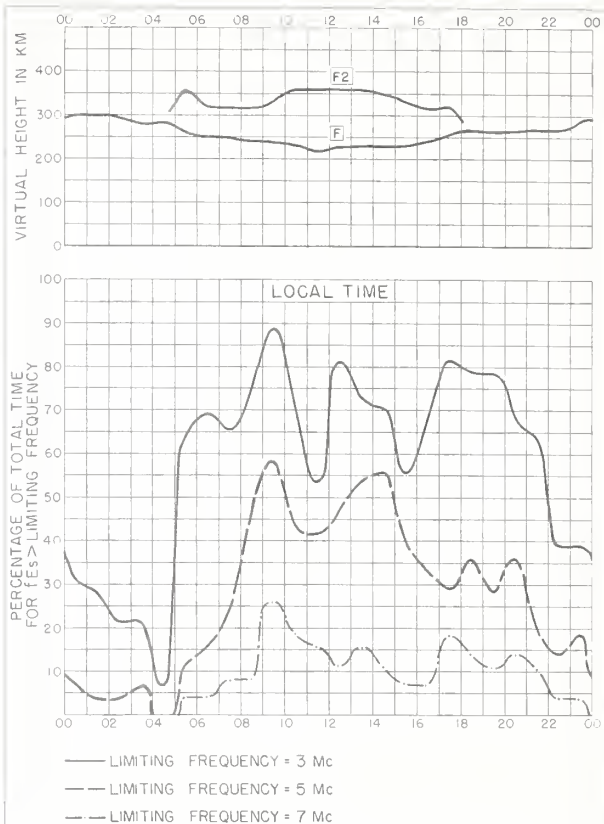


Fig. 46. WAKKANAI, JAPAN

MAY 1961

NBS 490

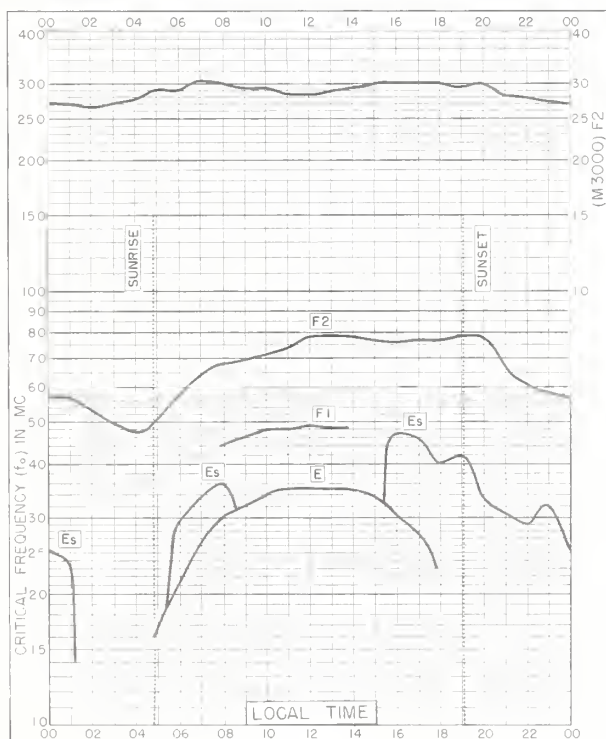


Fig. 47. ROME, ITALY  
41.8°N, 12.5°E

MAY 1961

NBS 503

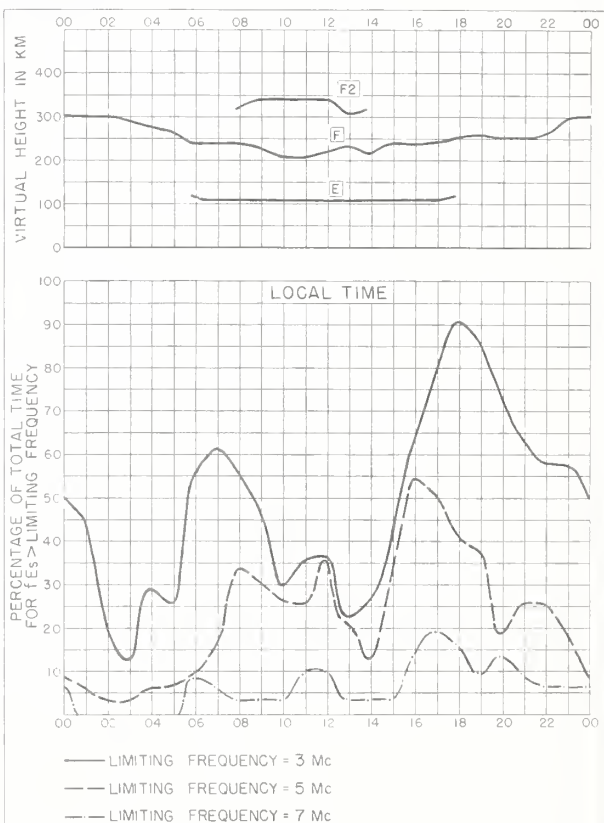


Fig. 48. ROME, ITALY

MAY 1961

NBS 490

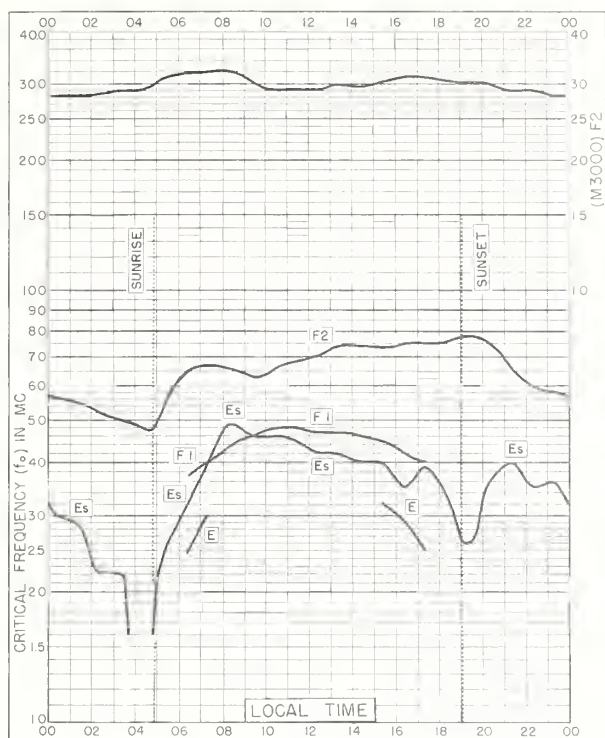


Fig. 49. AKITA, JAPAN  
39.7°N, 140.1°E

MAY 1961

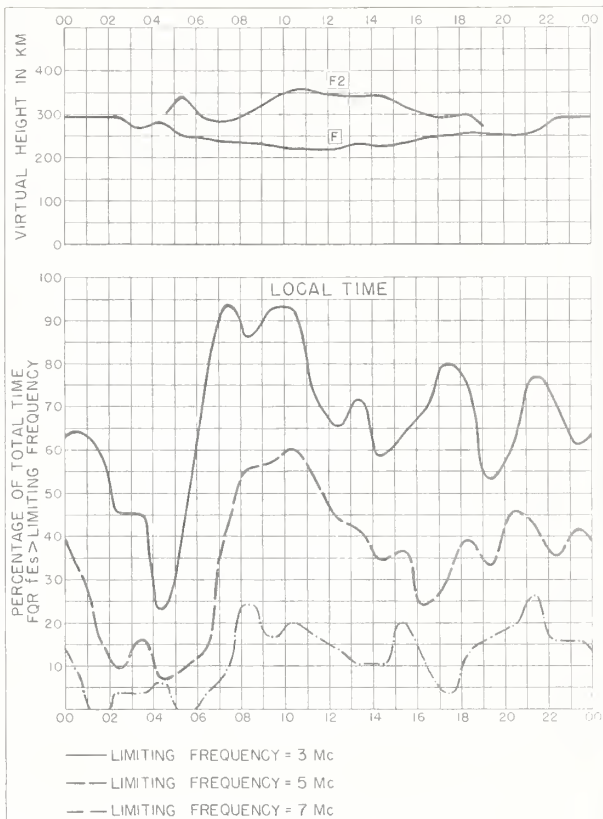


Fig. 50. AKITA, JAPAN

MAY 1961

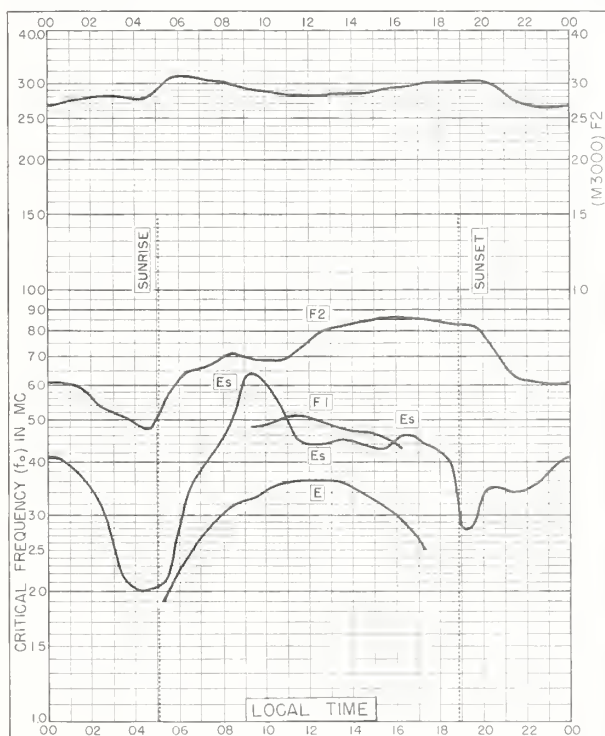


Fig. 51. TOKYO, JAPAN  
35.7°N, 139.5°E

MAY 1961

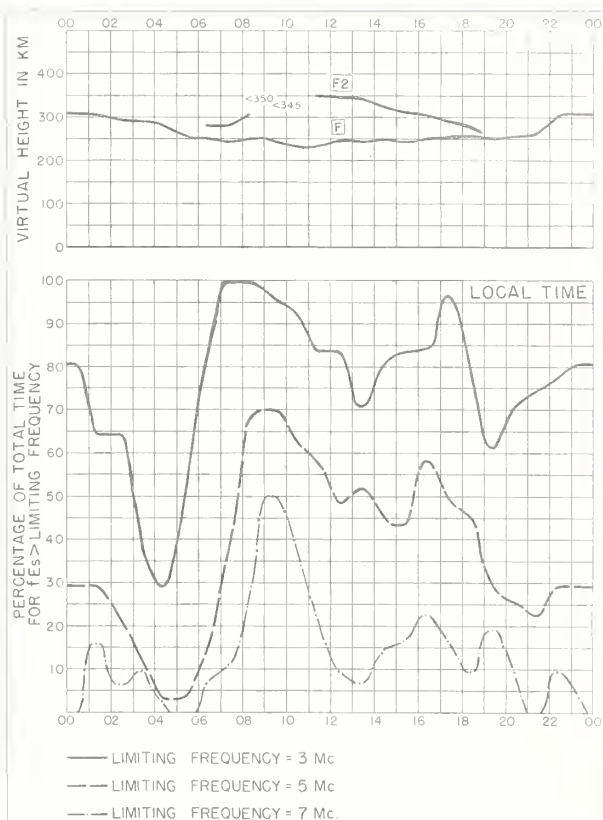


Fig. 52. TOKYO, JAPAN

MAY 1961

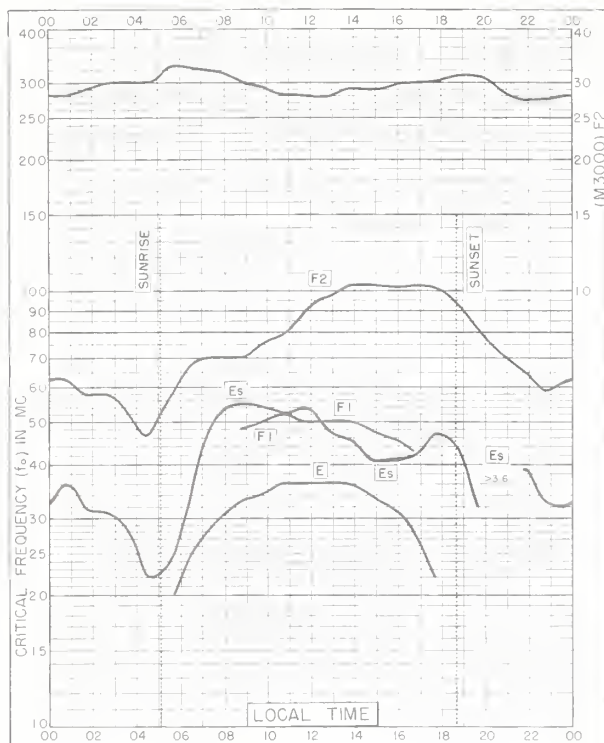


Fig. 53. YAMAGAWA, JAPAN  
31.2°N, 130.6°E

MAY 1961

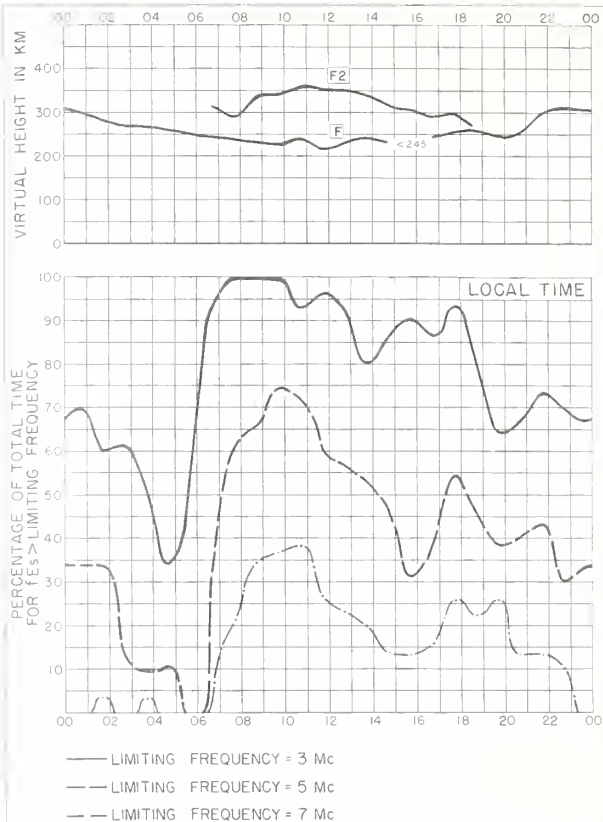


Fig. 54. YAMAGAWA, JAPAN

MAY 1961

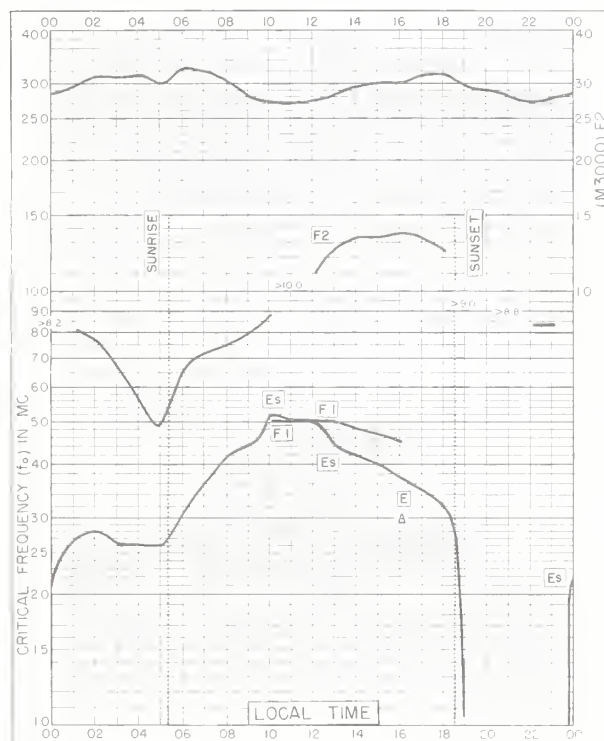


Fig. 55. FORMOSA, CHINA  
25.0°N, 121.5°E

MAY 1961

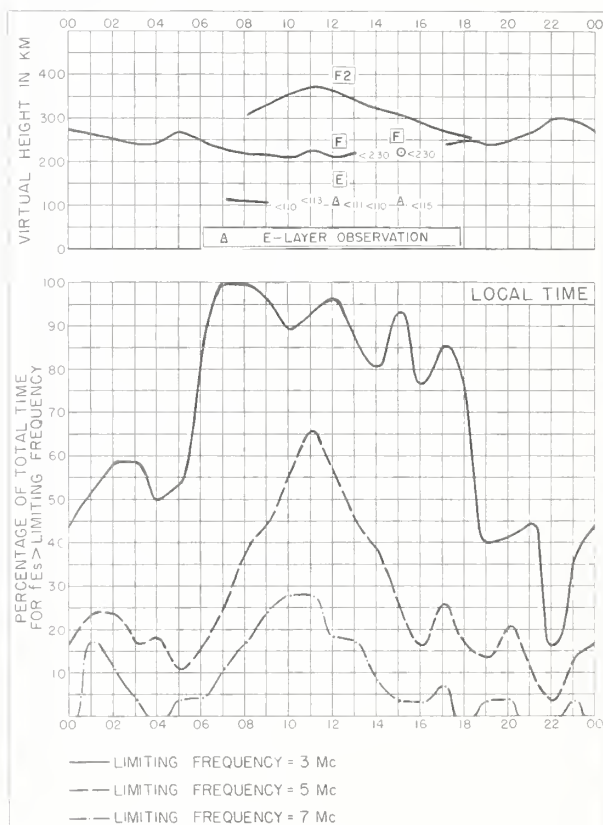


Fig. 56. FORMOSA, CHINA

MAY 1961



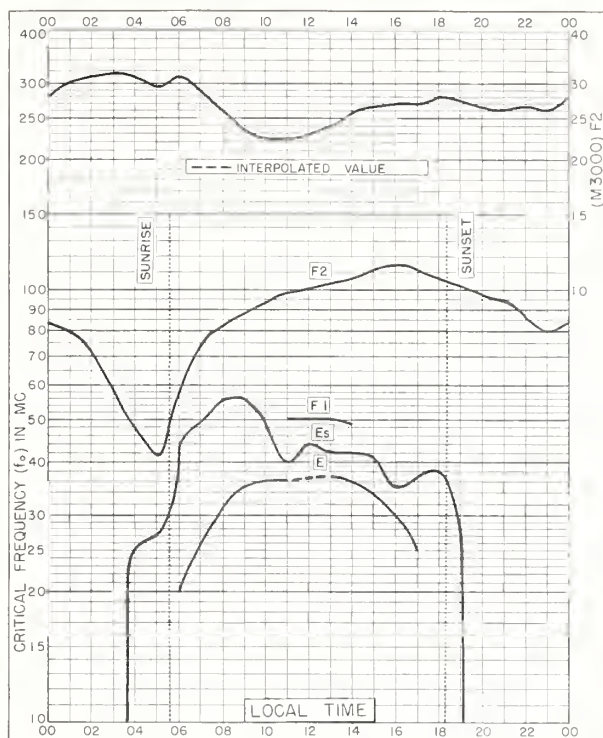


Fig. 57. BAGUIO, P. I.  
16.4°N, 120.6°E

MAY 1961

NBS 503

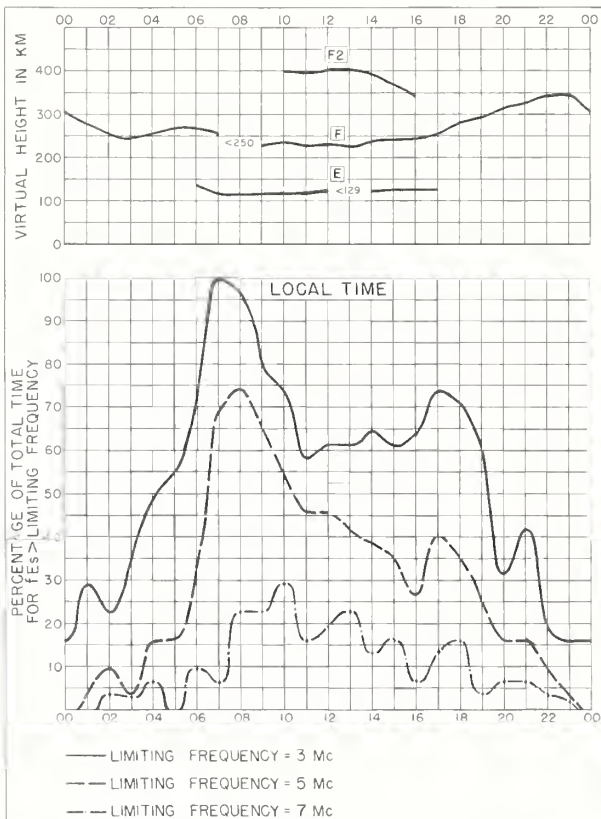


Fig. 58. BAGUIO, P. I.

MAY 1961

NBS 490

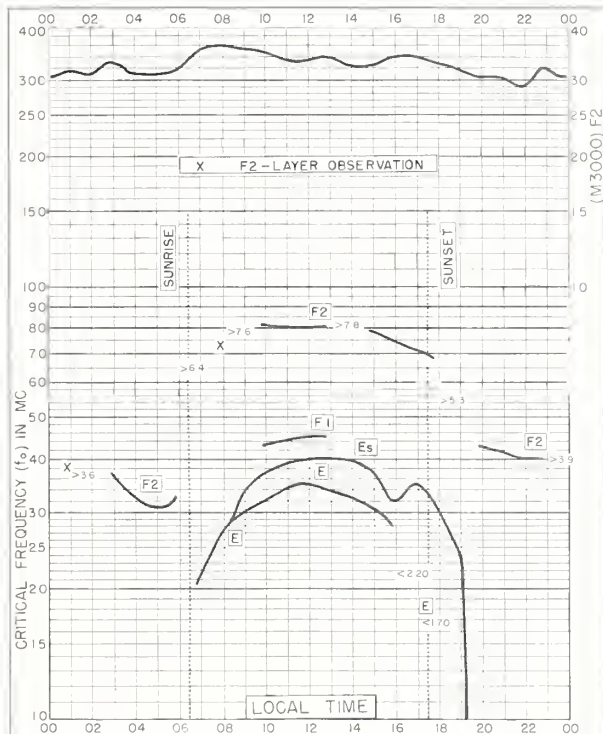


Fig. 59. TOWNSVILLE, AUSTRALIA  
19.3°S, 146.7°E

MAY 1961

NBS 503

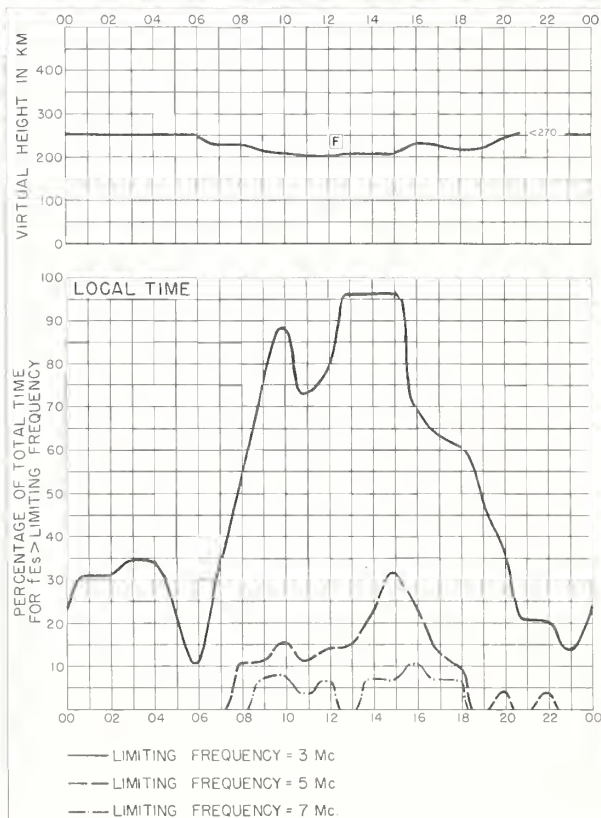


Fig. 60. TOWNSVILLE, AUSTRALIA

MAY 1961

NBS 490

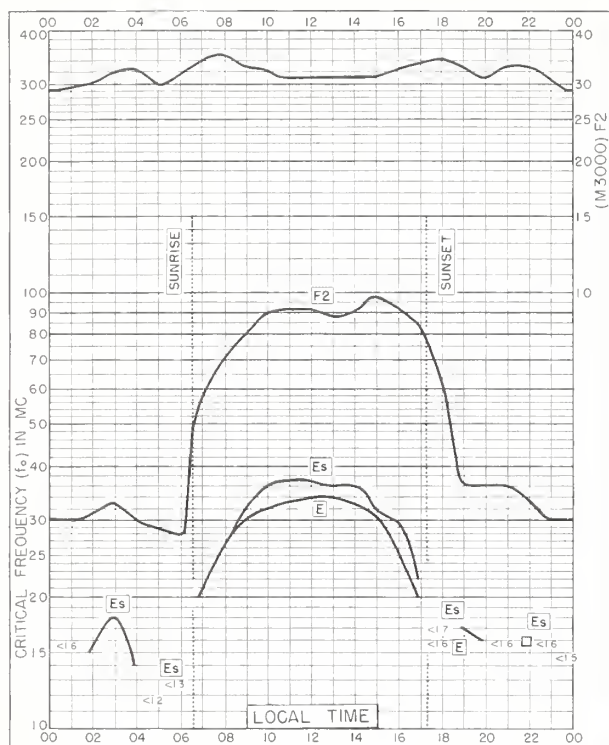


Fig. 61. JOHANNESBURG, UNION OF S. AFRICA  
26.1°S, 28.1°E  
MAY 1961

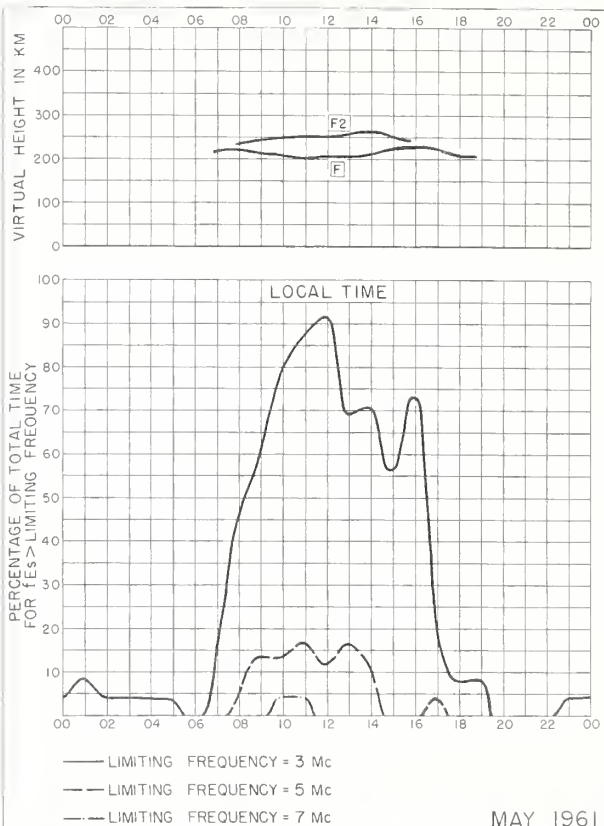


Fig. 62. JOHANNESBURG, UNION OF S. AFRICA  
MAY 1961



Fig. 63. BRISBANE, AUSTRALIA  
27.5°S, 152.9°E  
MAY 1961

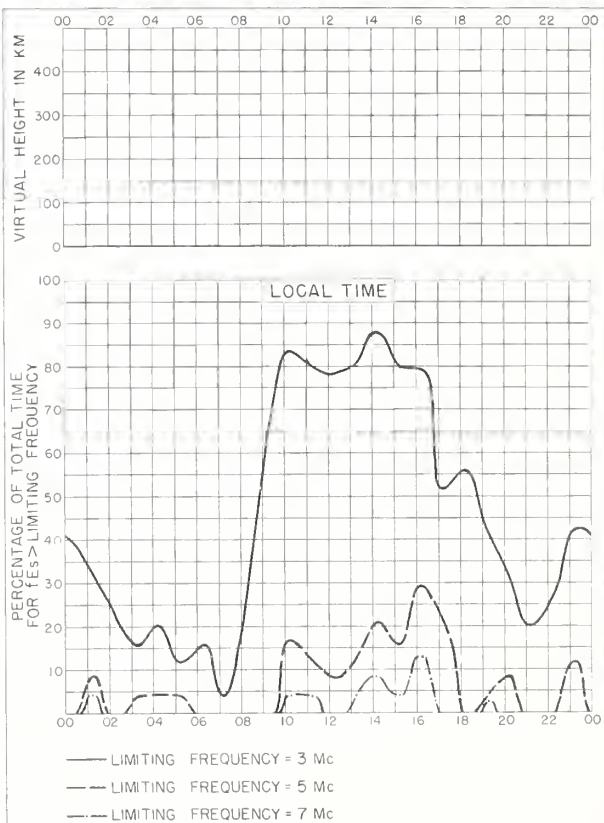


Fig. 64. BRISBANE, AUSTRALIA  
MAY 1961

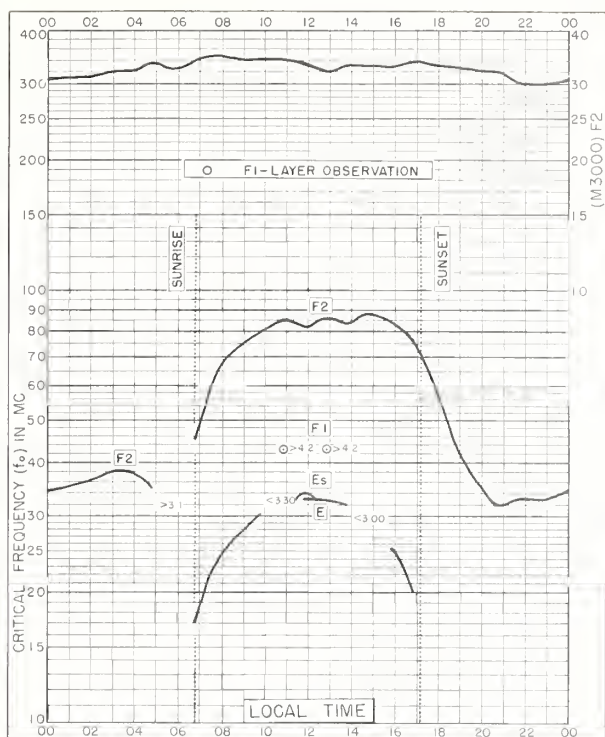


Fig. 65. MUNDARING, W. AUSTRALIA  
32.0°S, 116.2°E

MAY 1961

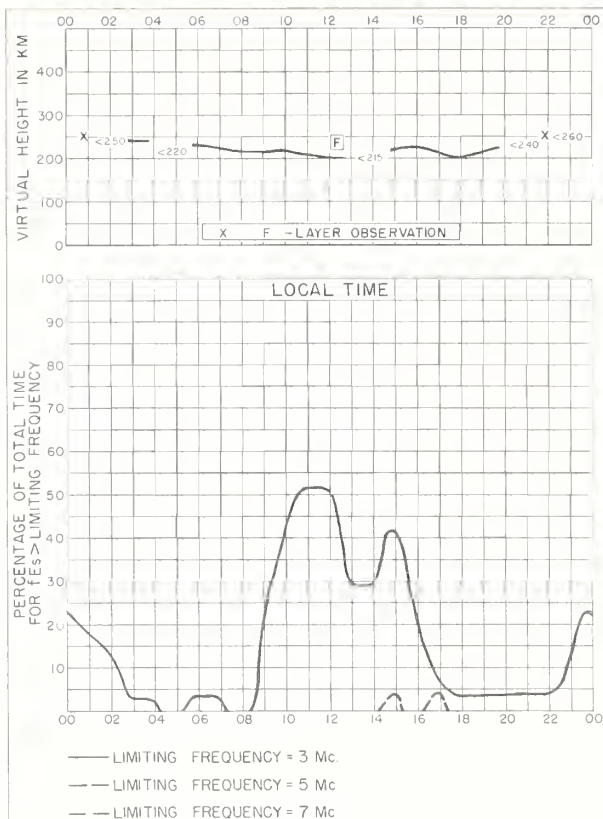


Fig. 66. MUNDARING, W. AUSTRALIA MAY 1961

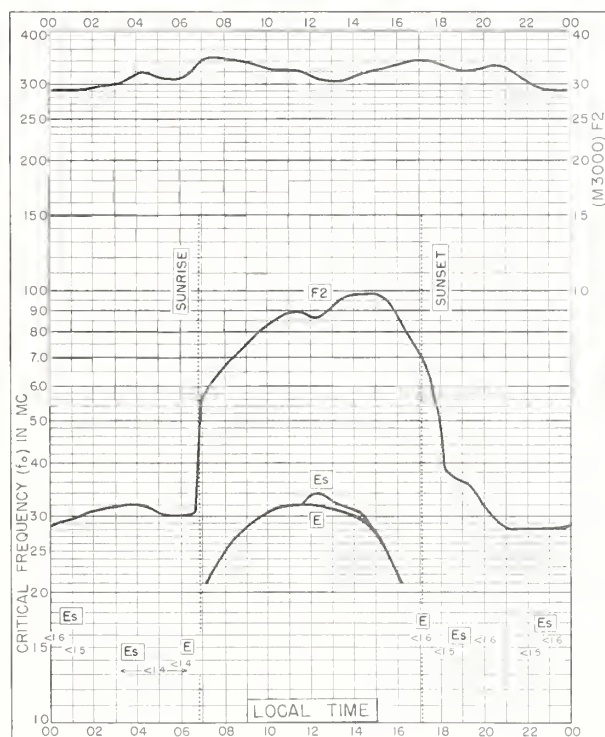


Fig. 67. CAPETOWN, UNION OF S. AFRICA  
34.1°S, 18.3°E M

MAY 1961

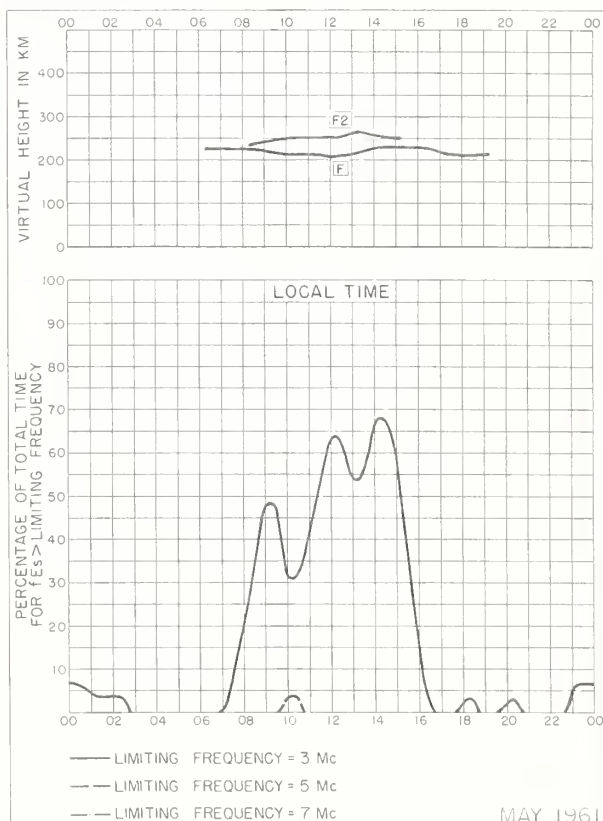


Fig. 68. CAPETOWN, UNION OF S. AFRICA

MAY 1961



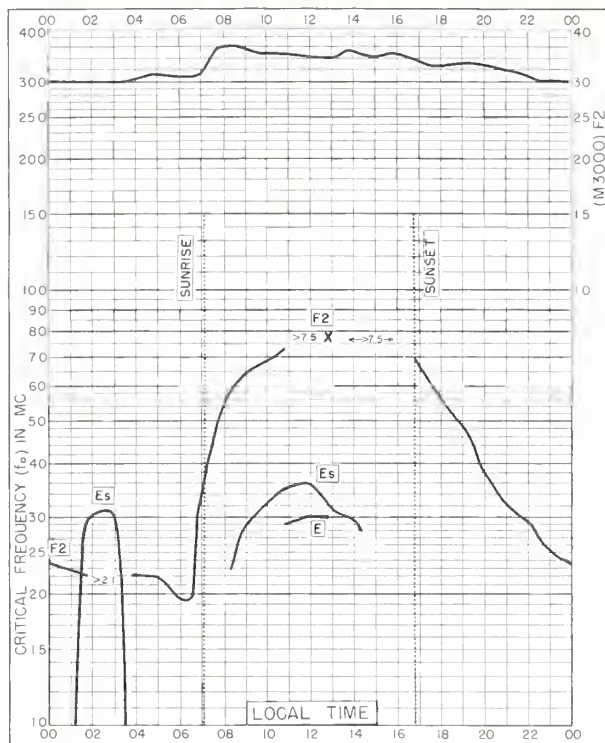


Fig. 69. HOBART, TASMANIA  
42.9°S, 147.2°E

MAY 1961

NBS 503

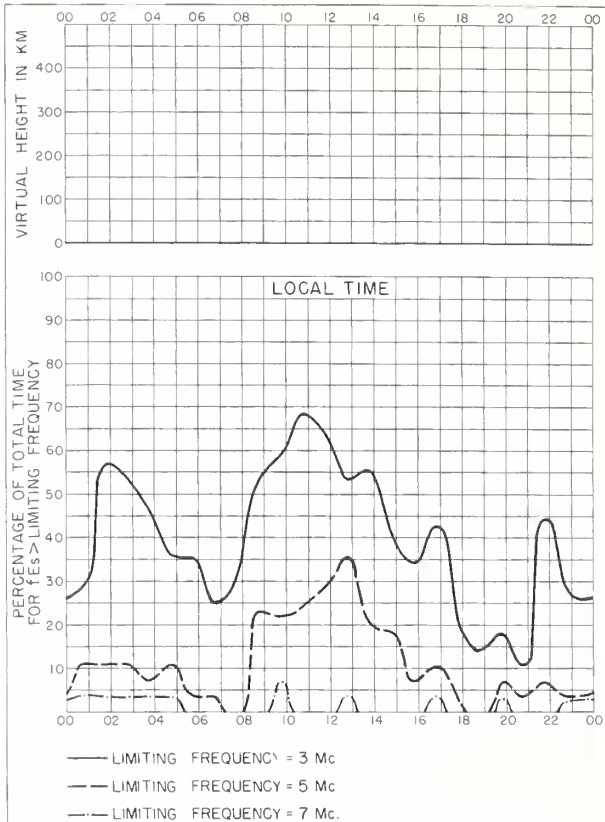


Fig. 70. HOBART, TASMANIA

MAY 1961

NBS 490



Fig. 71. CHRISTCHURCH, NEW ZEALAND  
43.6°S, 172.8°E

MAY 1961

NBS 503

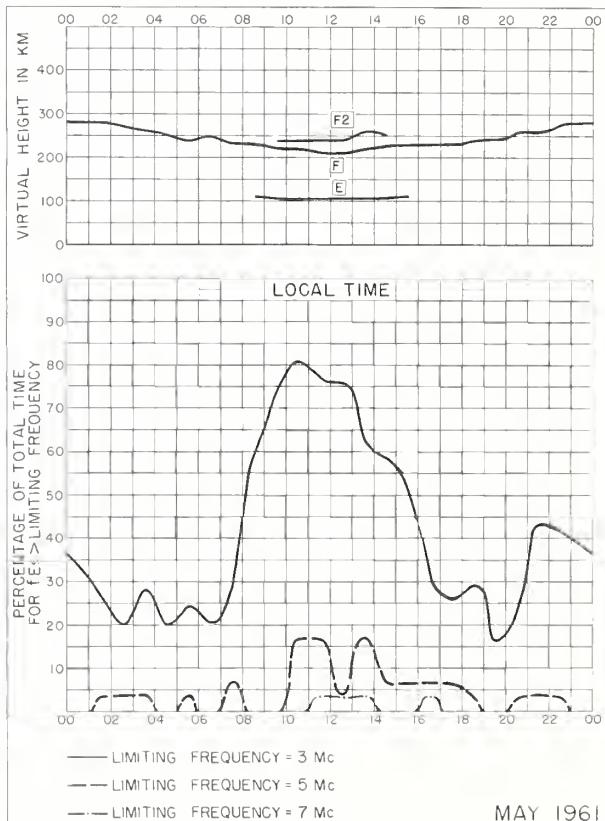


Fig. 72. CHRISTCHURCH, NEW ZEALAND

MAY 1961

NBS 490



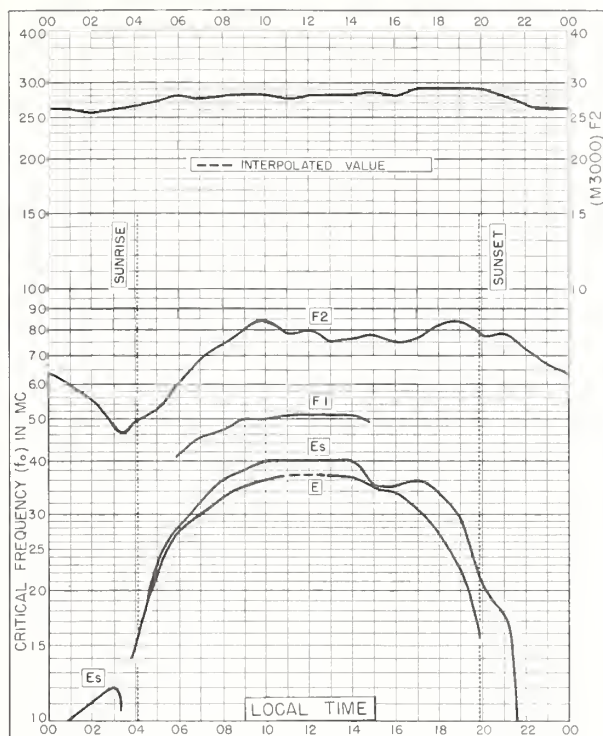


Fig. 73. JULIUSRUH/RÜGEN, GERMANY  
54.6°N, 13.4°E MAY 1960

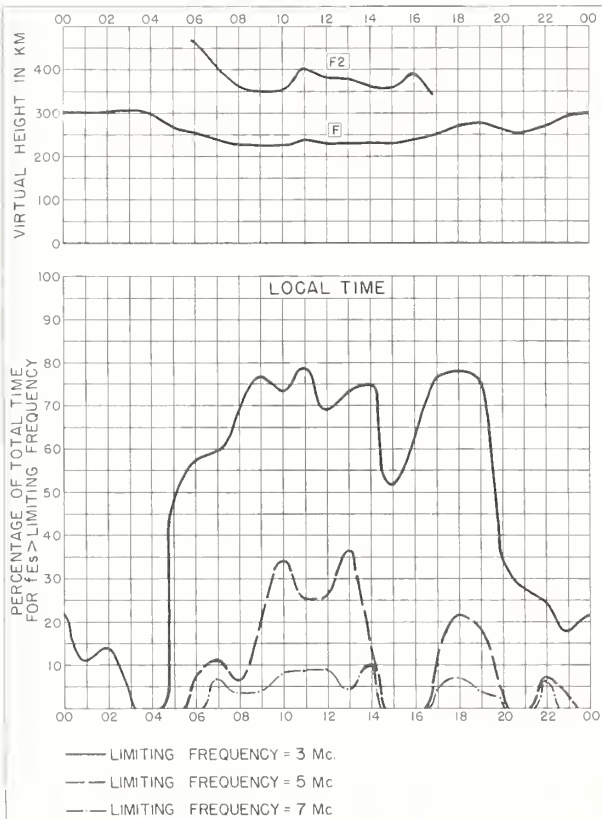


Fig. 74. JULIUSRUH/RÜGEN, GERMANY MAY 1960

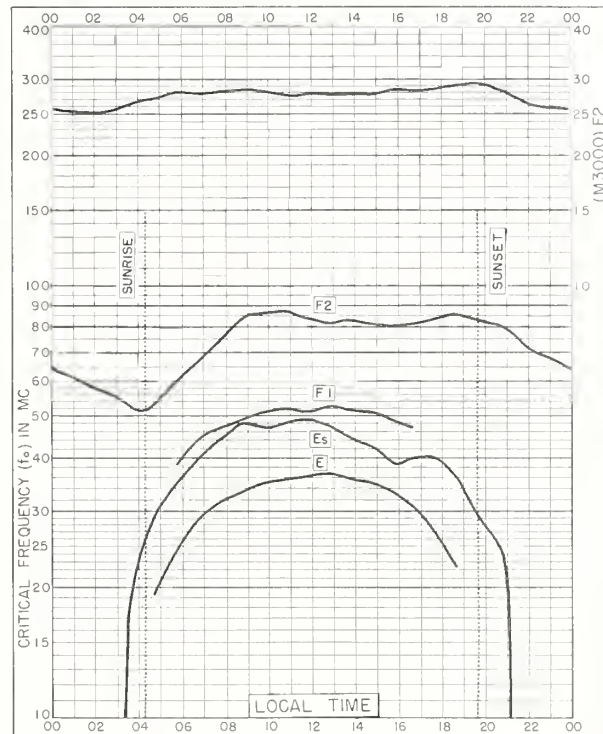


Fig. 75. LINDAU/HARZ, GERMANY  
51.6°N, 10.1°E MAY 1960

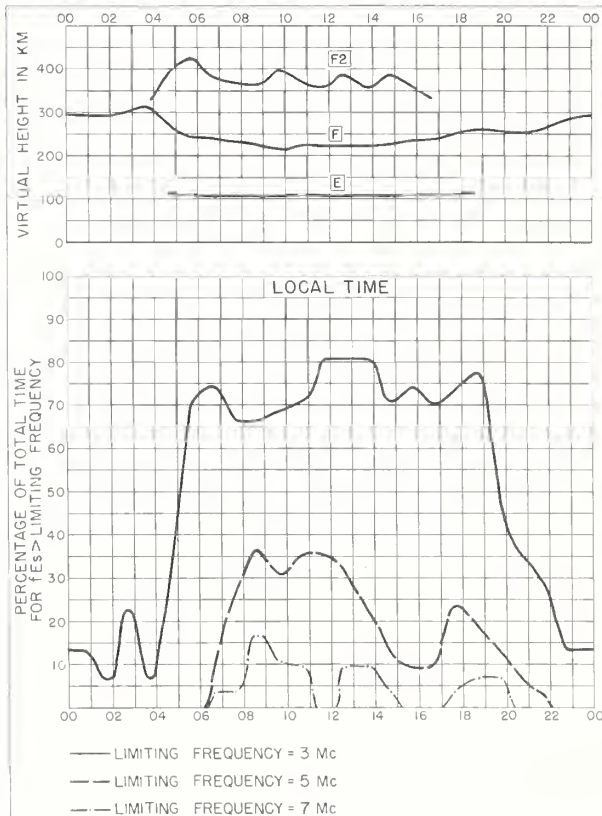


Fig. 76. LINDAU/HARZ, GERMANY MAY 1960

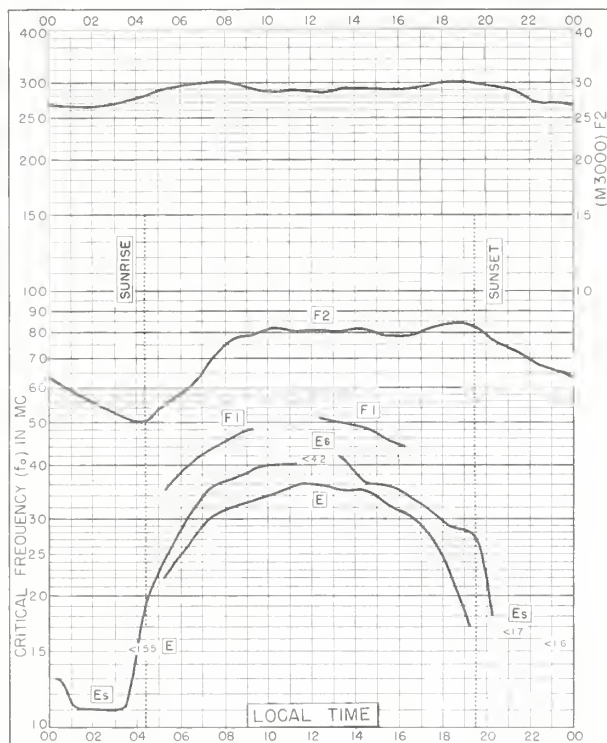


Fig. 77. DOURBES, BELGIUM  
50.1°N, 4.6°E

MAY 1960

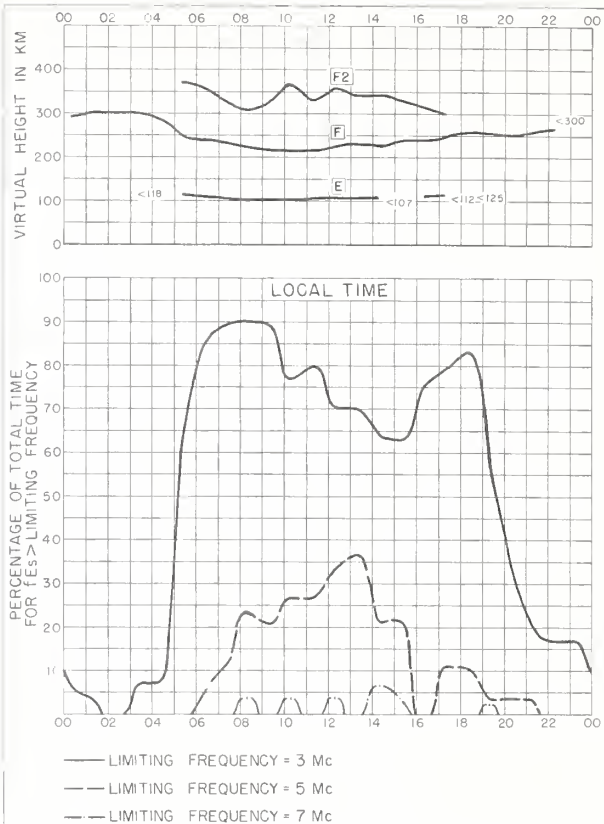


Fig. 78. DOURBES, BELGIUM

MAY 1960

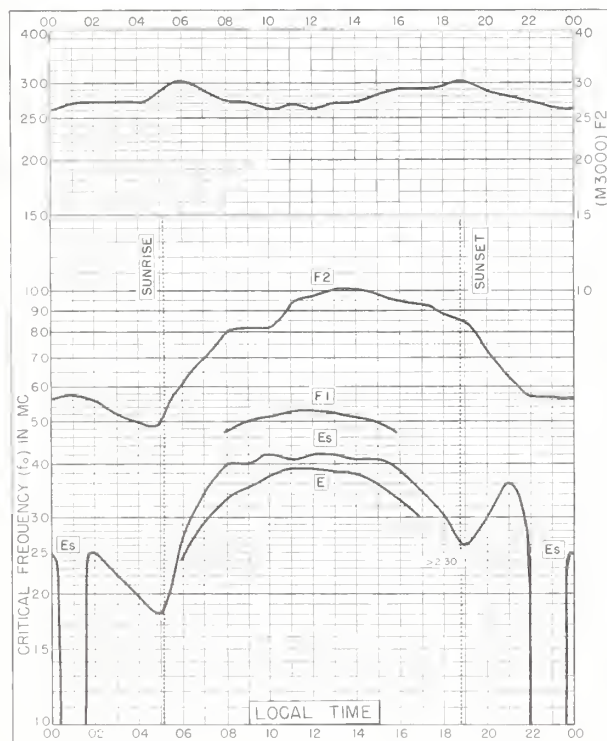


Fig. 79. WHITE SANDS, NEW MEXICO  
32.3°N, 106.5°W

MAY 1960

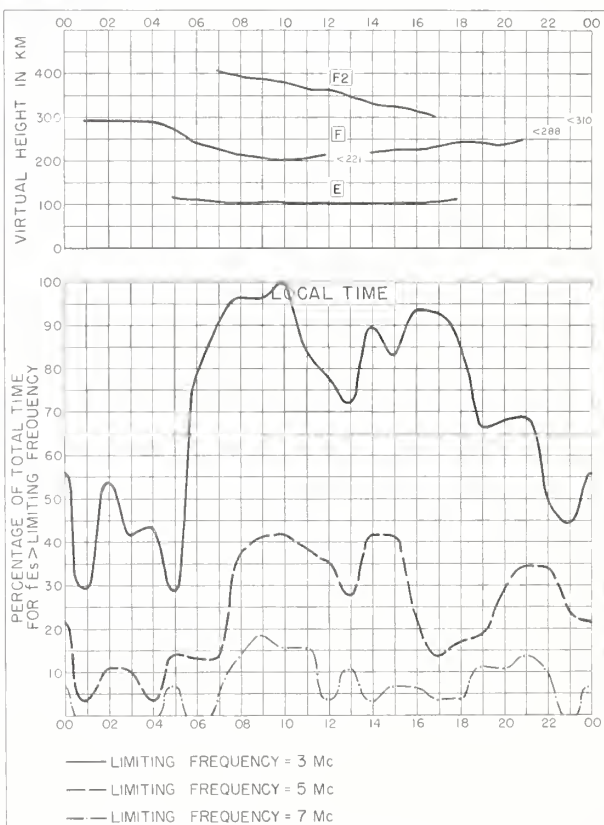


Fig. 80. WHITE SANDS, NEW MEXICO

MAY 1960

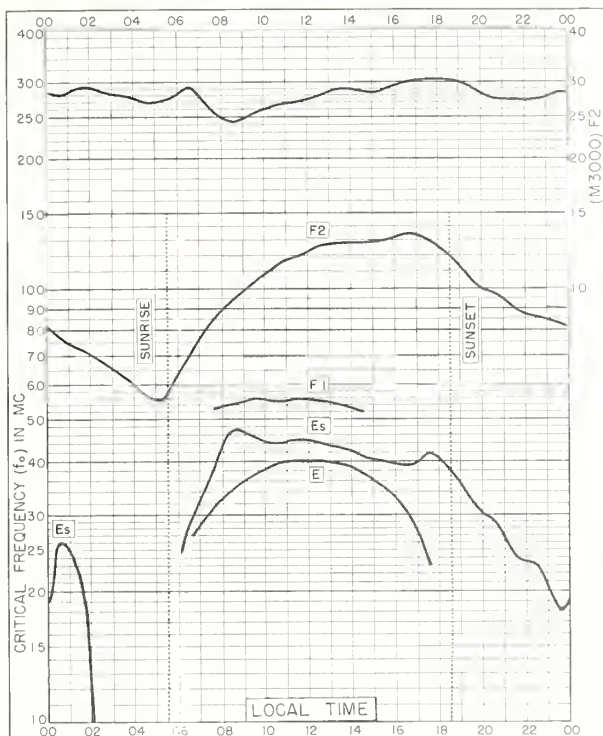


Fig. 81. MAUI, HAWAII  
20.8°N, 156.5°W

MAY 1960

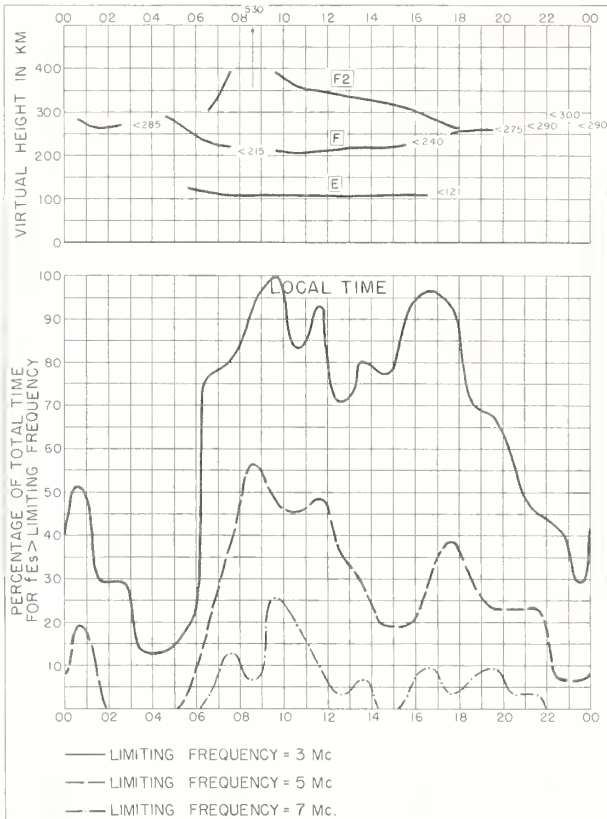


Fig. 82. MAUI, HAWAII

MAY 1960

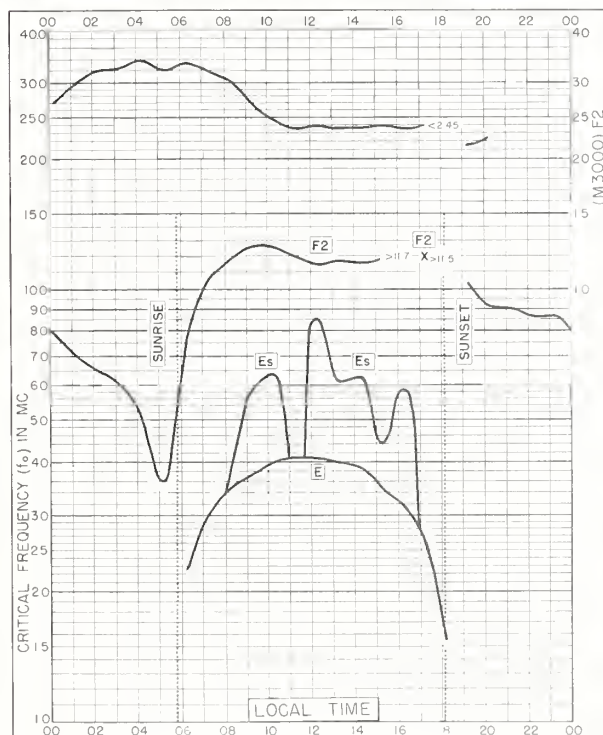


Fig. 83. IBADAN, NIGERIA  
7.4°N, 3.9°E

MAY 1960

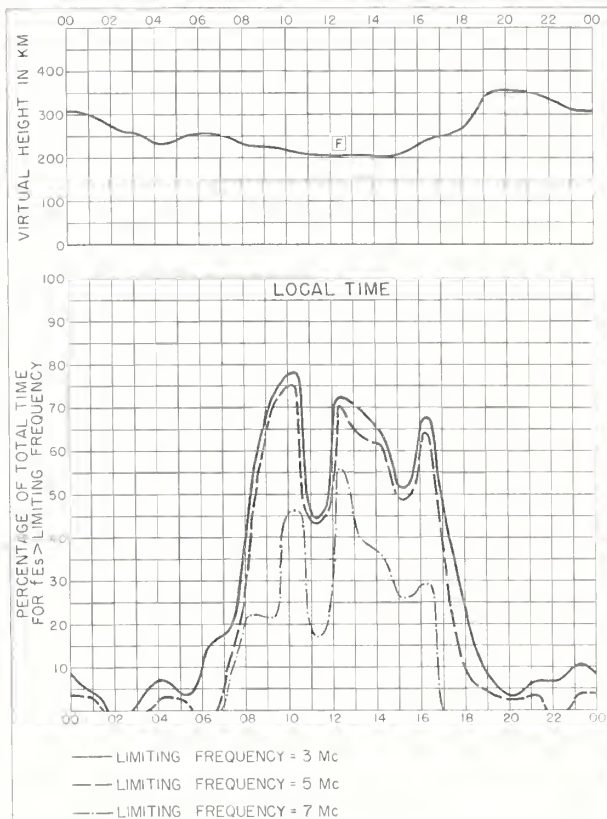


Fig. 84. IBADAN, NIGERIA

MAY 1960



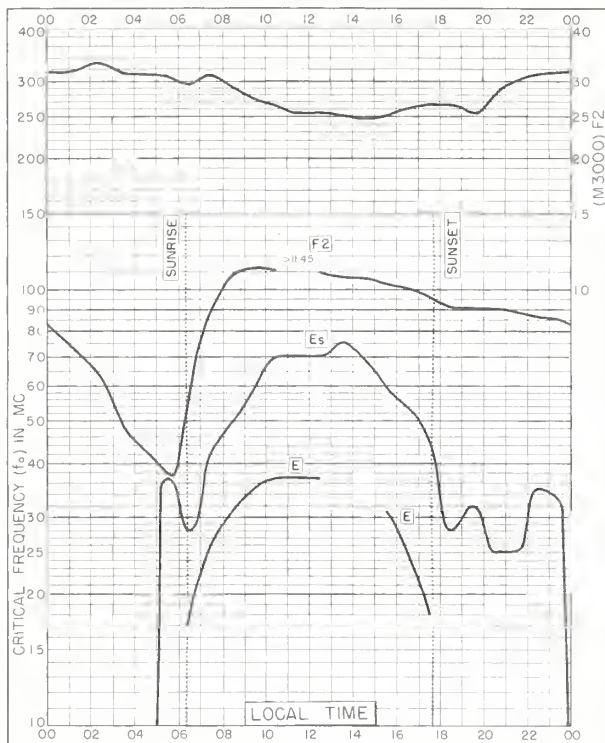


Fig. 85. LA PAZ, BOLIVIA  
16.5°S, 68.1°W

MAY 1960

NBS 503

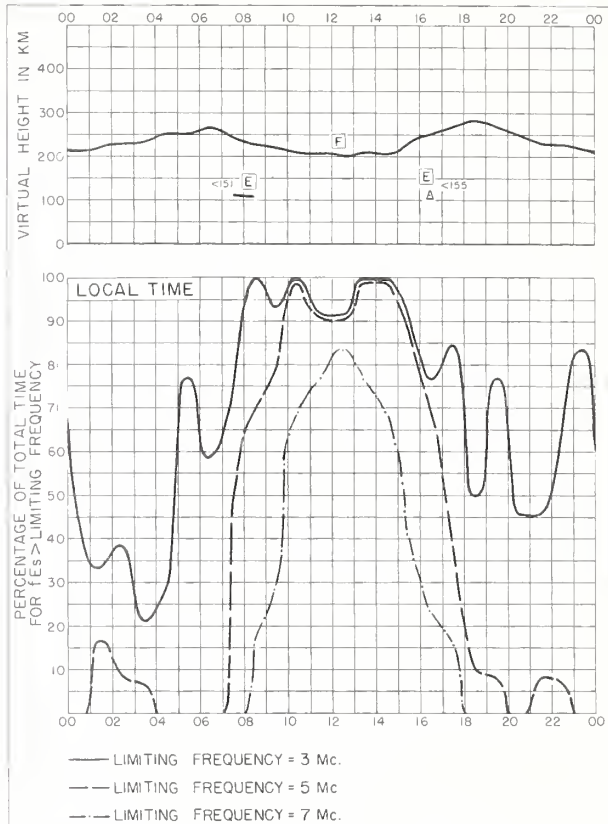


Fig. 86. LA PAZ, BOLIVIA

MAY 1960

NBS 490

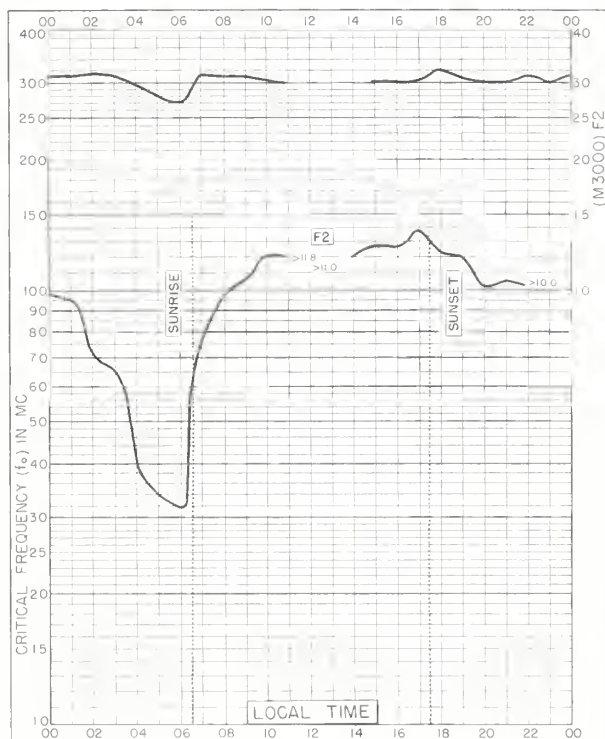


Fig. 87. SAO PAULO, BRAZIL  
23.5°S, 46.5°W

MAY 1960

NBS 503

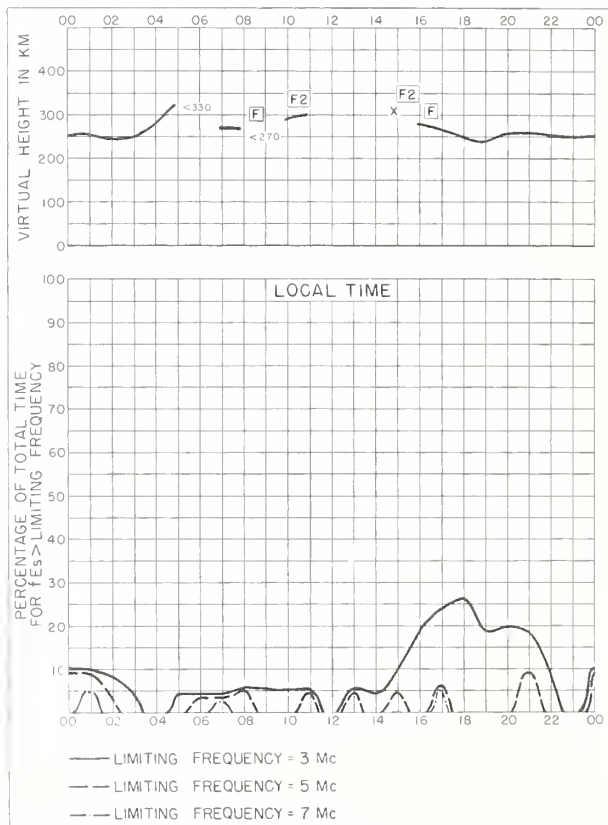


Fig. 88. SAO PAULO, BRAZIL

MAY 1960

NBS 490

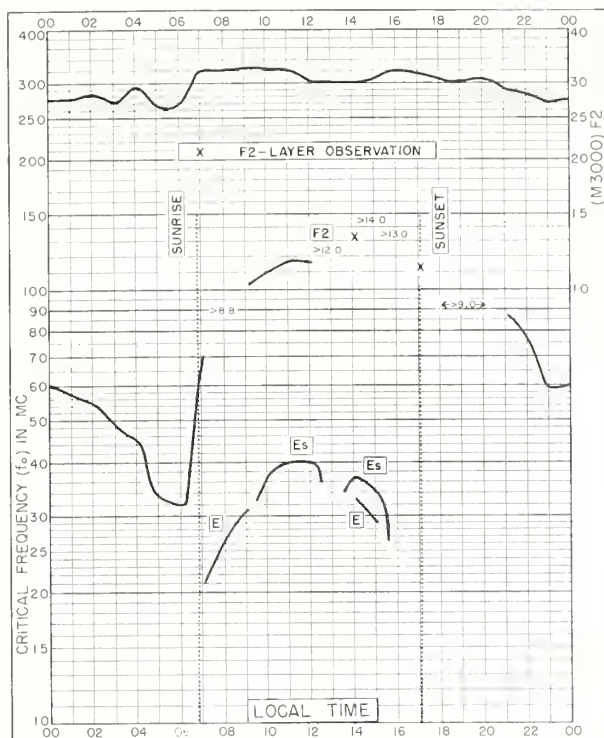


Fig. 89. BUENOS AIRES, ARGENTINA  
34.5°S, 58.5°W

MAY 1960

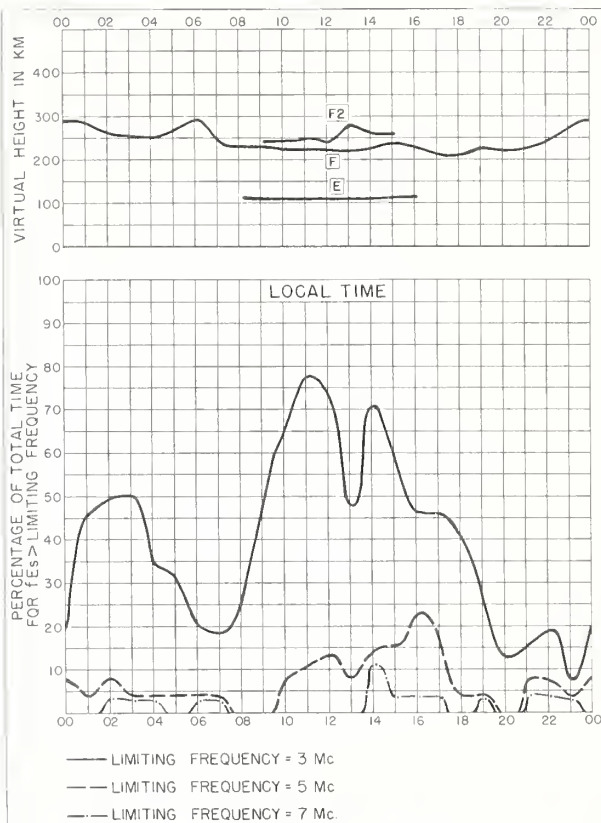


Fig. 90. BUENOS AIRES, ARGENTINA MAY 1960

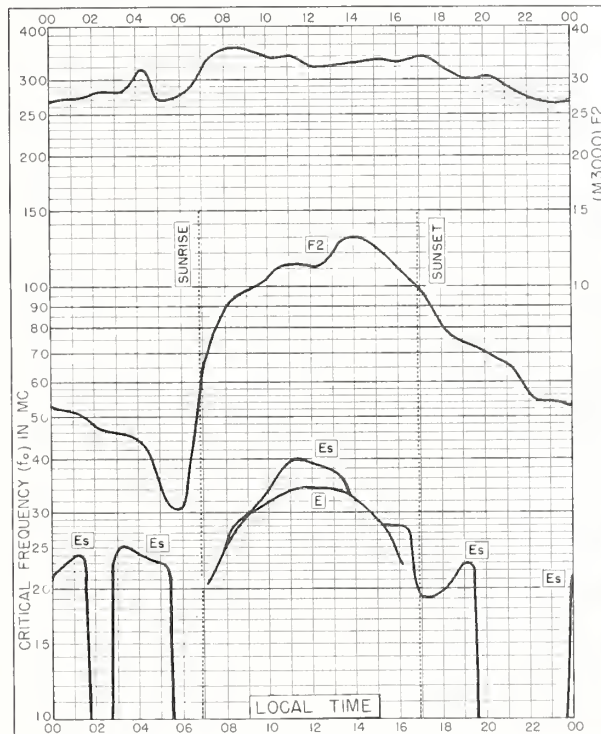


Fig. 91. CONCEPCION, CHILE  
36.6°S, 73.0°W

MAY 1960

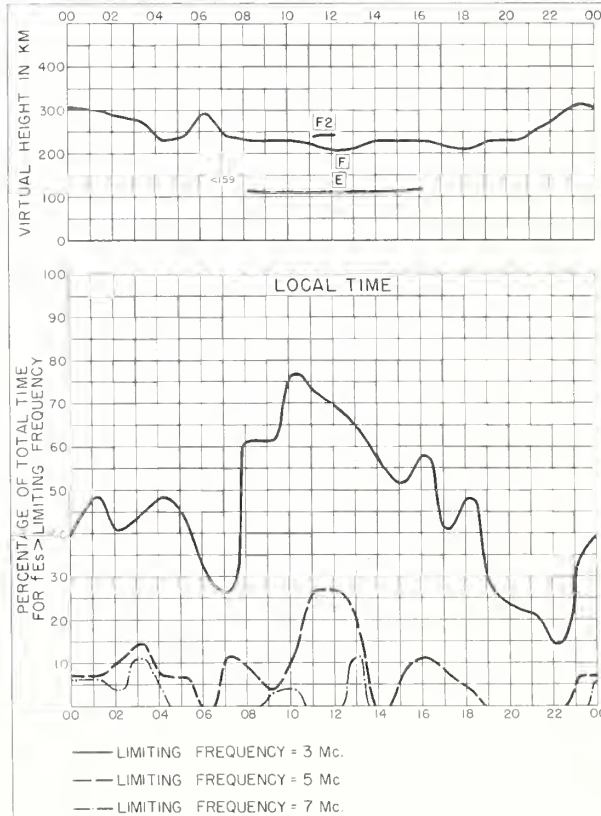


Fig. 92. CONCEPCION, CHILE

MAY 1960

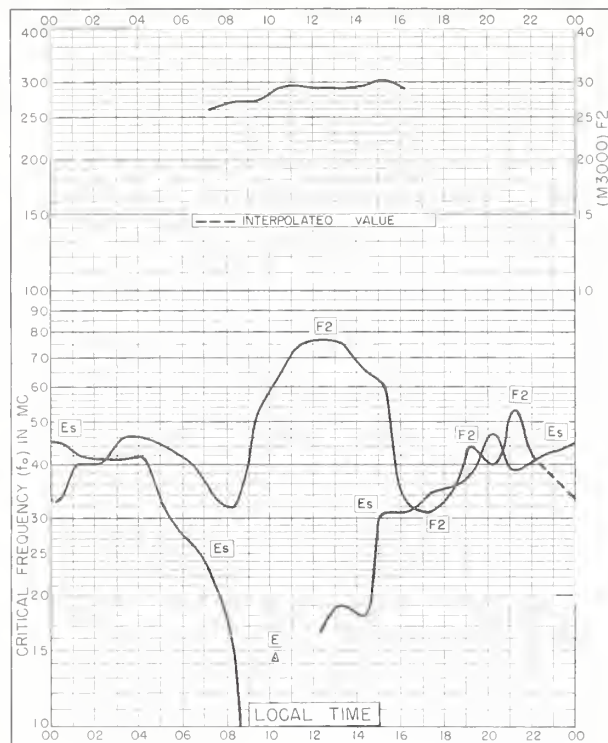


Fig. 93. TROMSO, NORWAY  
69°N, 19.0°E

DECEMBER 1959

NBS 503

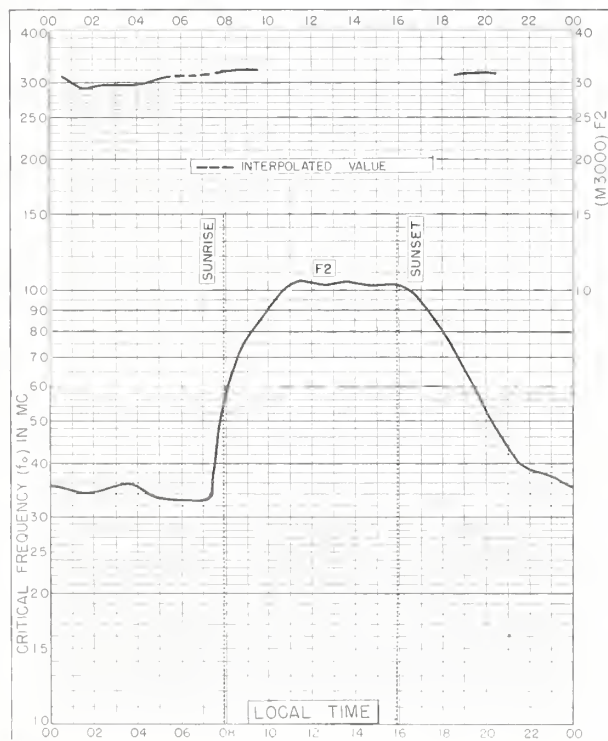


Fig. 95. WINNIPEG, CANADA  
49.9°N, 97.4°W

DECEMBER 1959

NBS 503

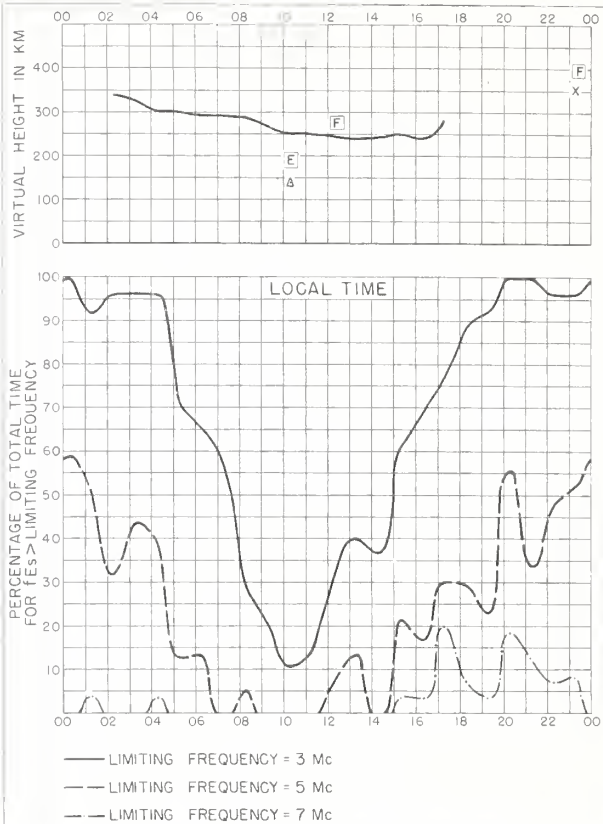


Fig. 94. TROMSO, NORWAY

DECEMBER 1959

NBS 490

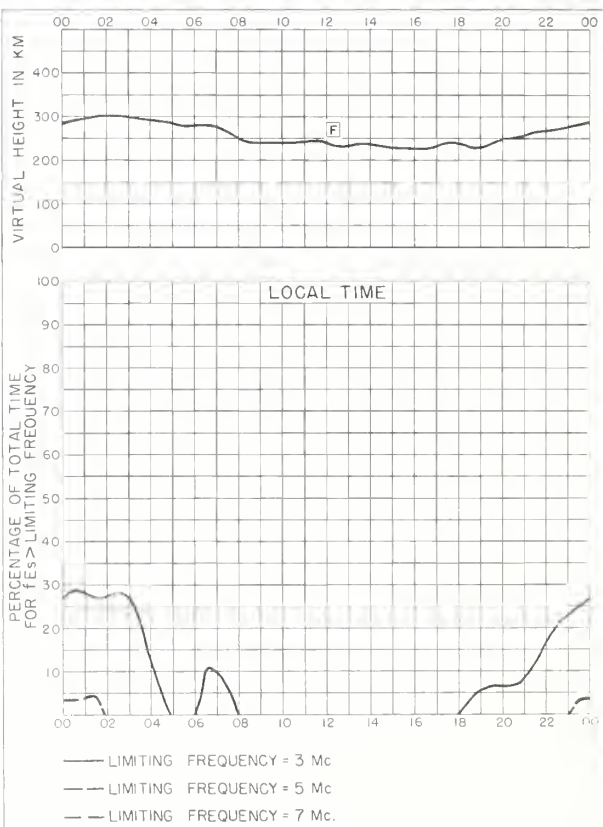


Fig. 96. WINNIPEG, CANADA

DECEMBER 1959

NBS 490





Fig. 97. SINGAPORE, BRITISH MALAYA  
1.3°N, 103.8°E  
DECEMBER 1959

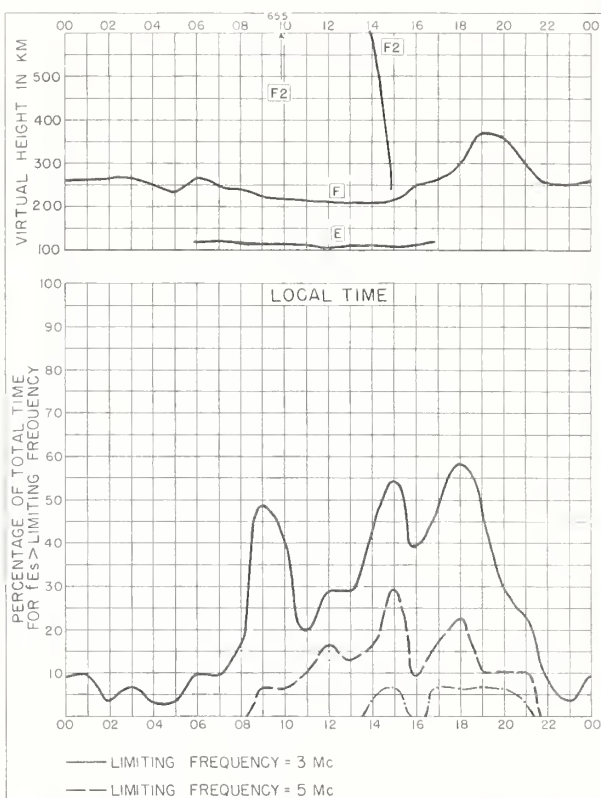


Fig. 98. SINGAPORE, BRITISH MALAYA  
DECEMBER 1959

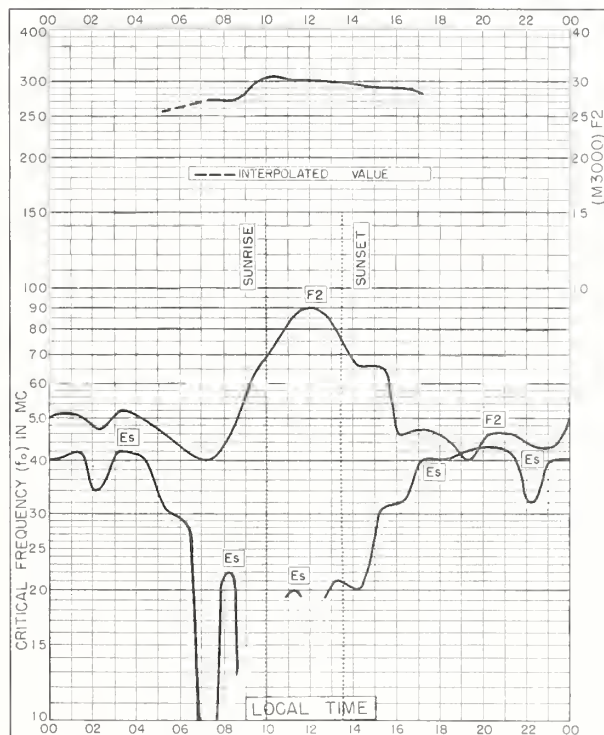


Fig. 99. TROMSØ, NORWAY  
69.7°N, 19.0°E  
NOVEMBER 1959

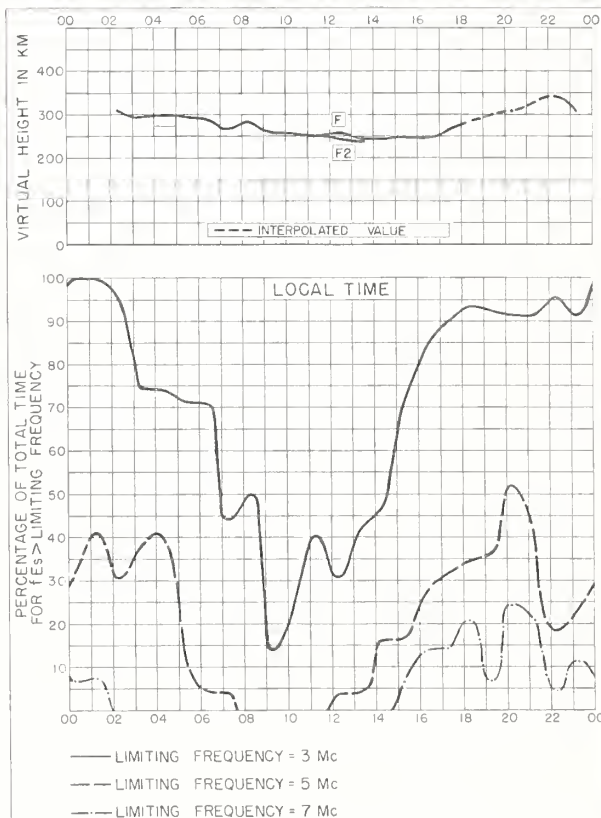


Fig. 100. TROMSØ, NORWAY  
NOVEMBER 1959



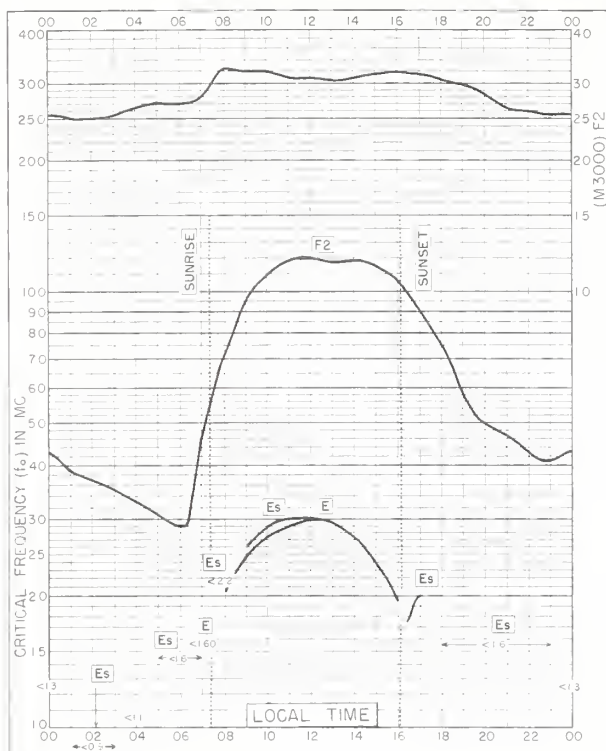
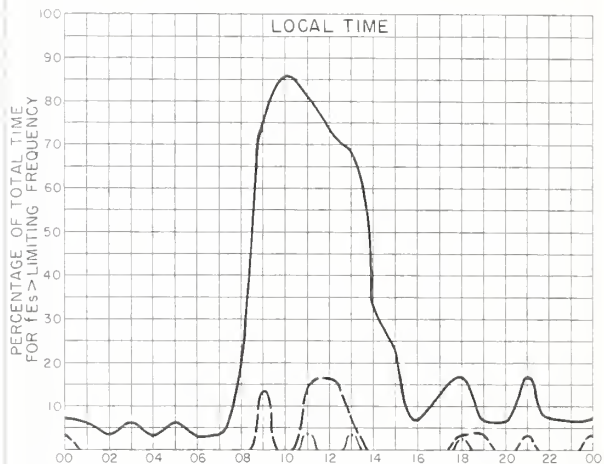
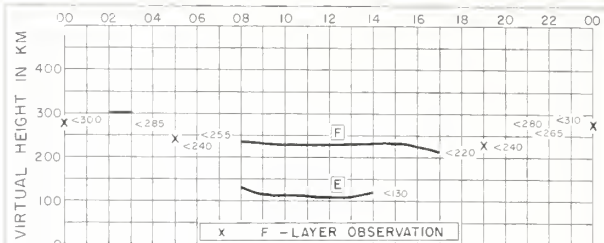


Fig. 101. SLOUGH, ENGLAND  
51.5°N, 0.6°W

NOVEMBER 1959



— LIMITING FREQUENCY = 3 Mc  
— LIMITING FREQUENCY = 5 Mc  
— LIMITING FREQUENCY = 7 Mc

Fig. 102. SLOUGH, ENGLAND

NOVEMBER 1959

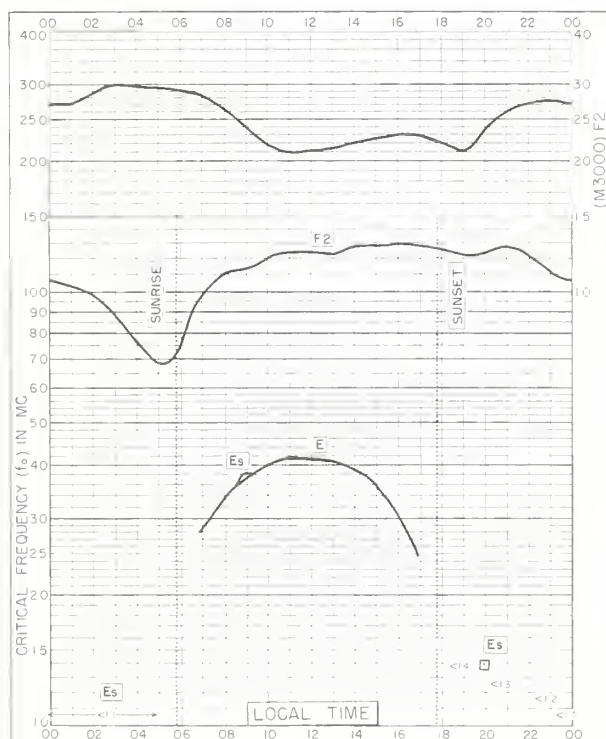
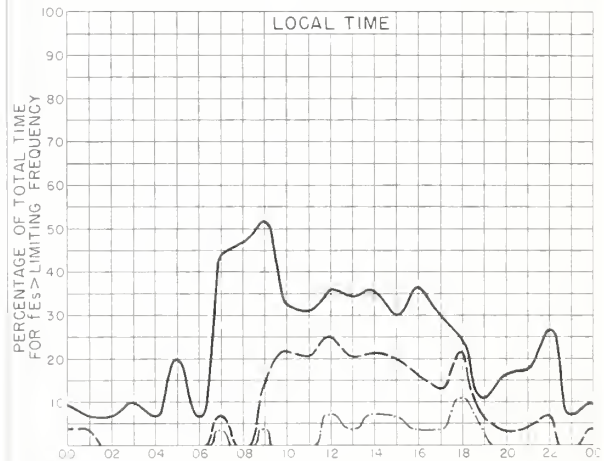
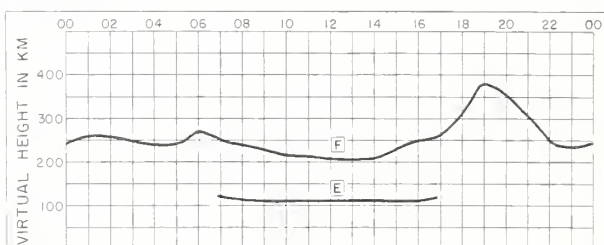


Fig. 103. SINGAPORE, BRITISH MALAYA  
1.3°N, 103.8°E

NOVEMBER 1959



— LIMITING FREQUENCY = 3 Mc  
— LIMITING FREQUENCY = 5 Mc  
— LIMITING FREQUENCY = 7 Mc

Fig. 104. SINGAPORE, BRITISH MALAYA

NOVEMBER 1959

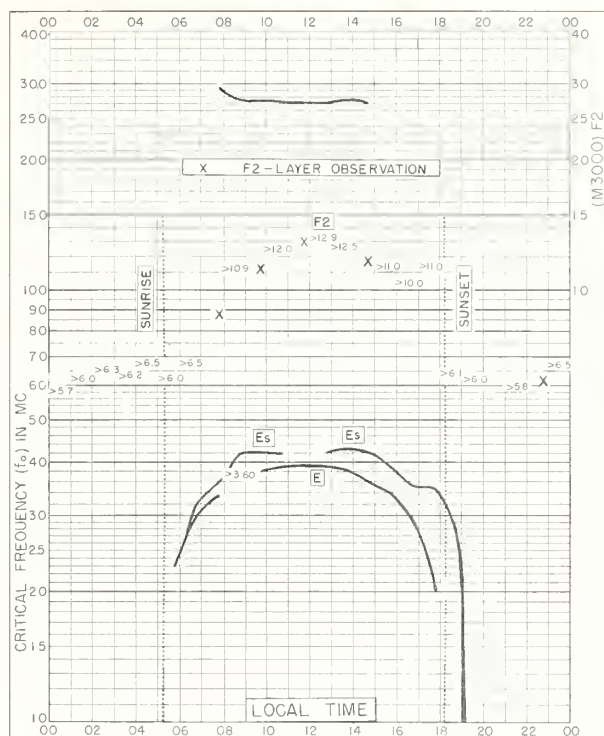


Fig. 105. TOWNSVILLE, AUSTRALIA  
19.3°S, 146.7°E NOVEMBER 1959

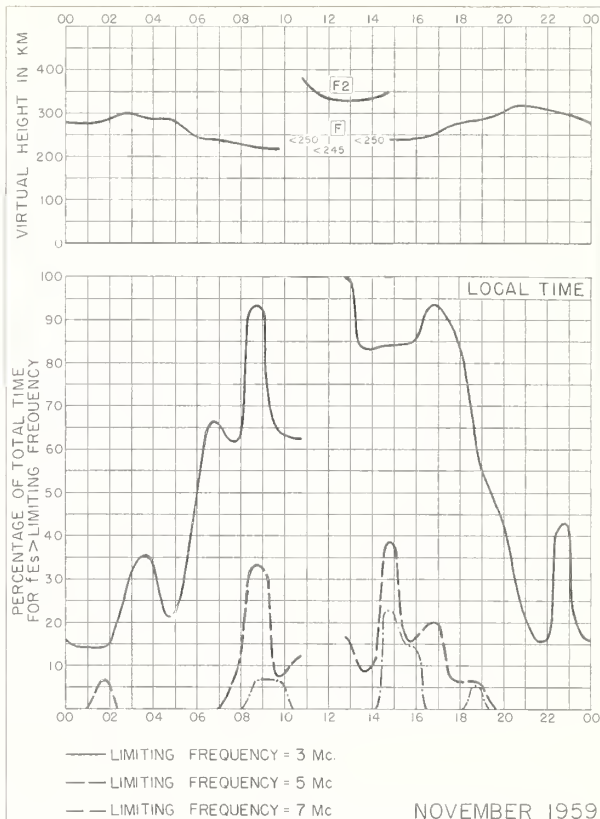


Fig. 106. TOWNSVILLE, AUSTRALIA

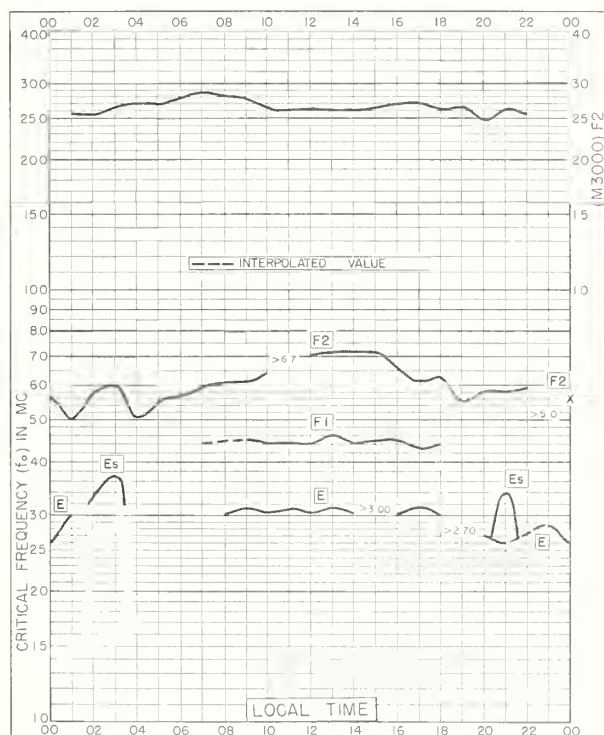


Fig. 107. BYRD STATION  
80.0°S, 120.0°W NOVEMBER 1959

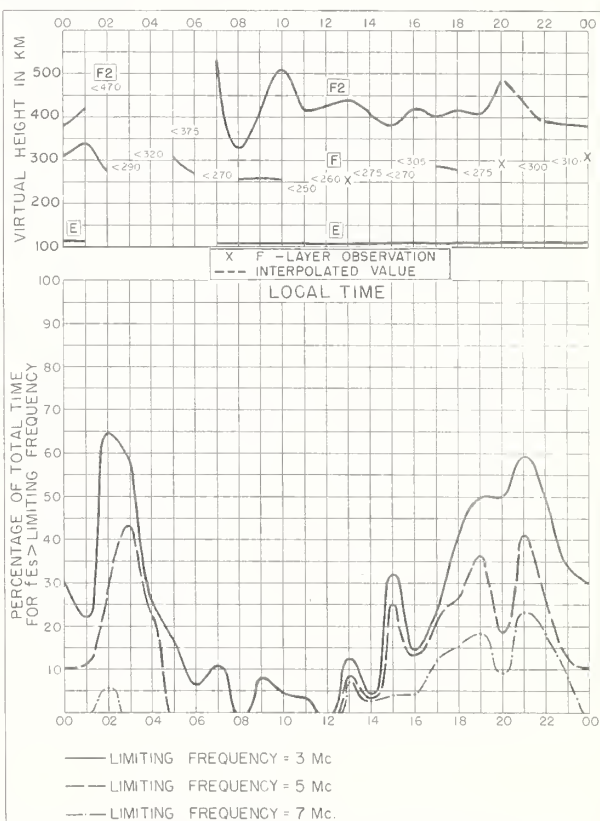


Fig. 108. BYRD STATION NOVEMBER 1959

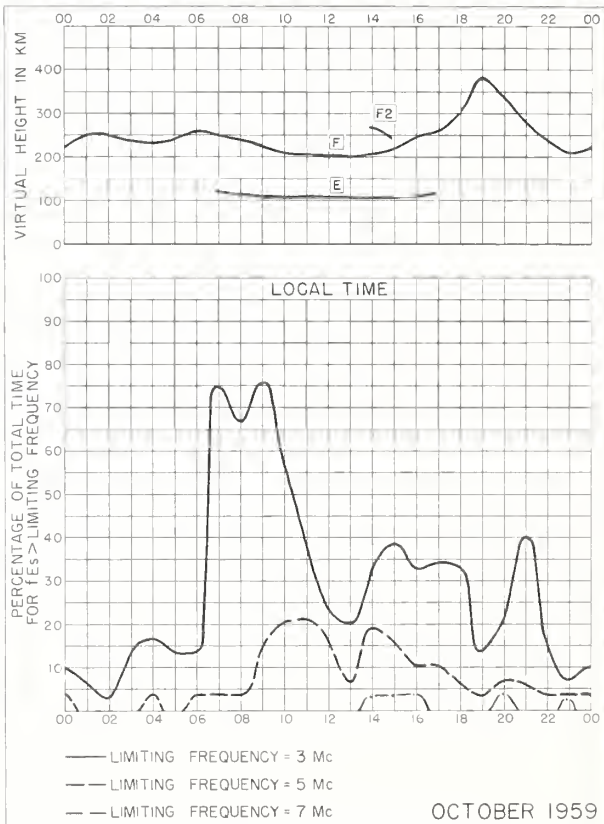
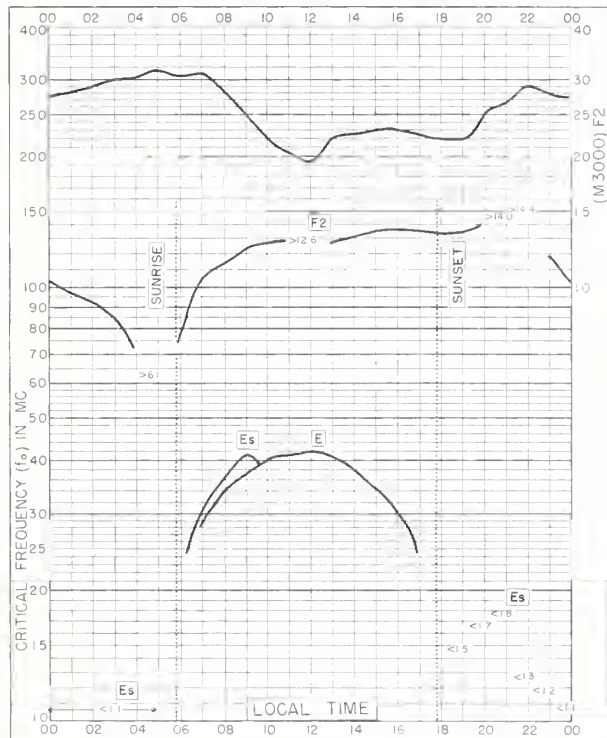
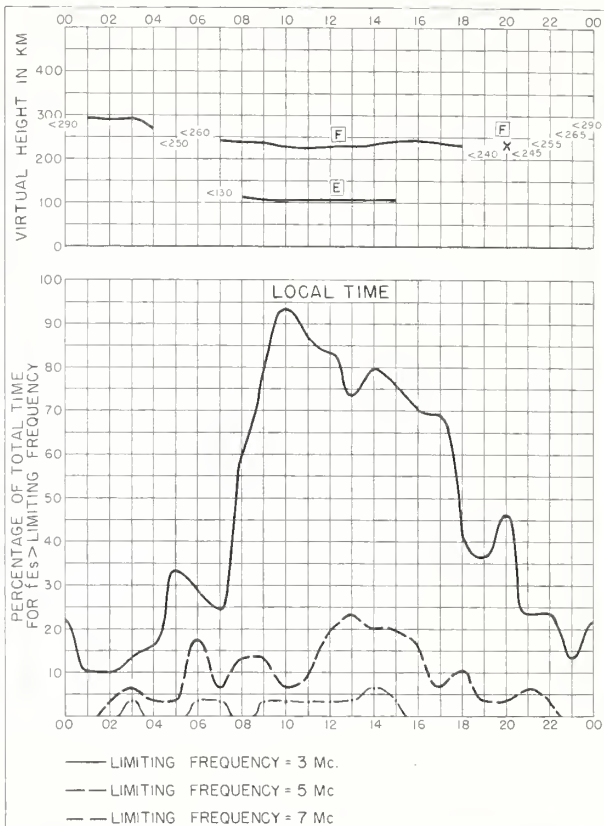
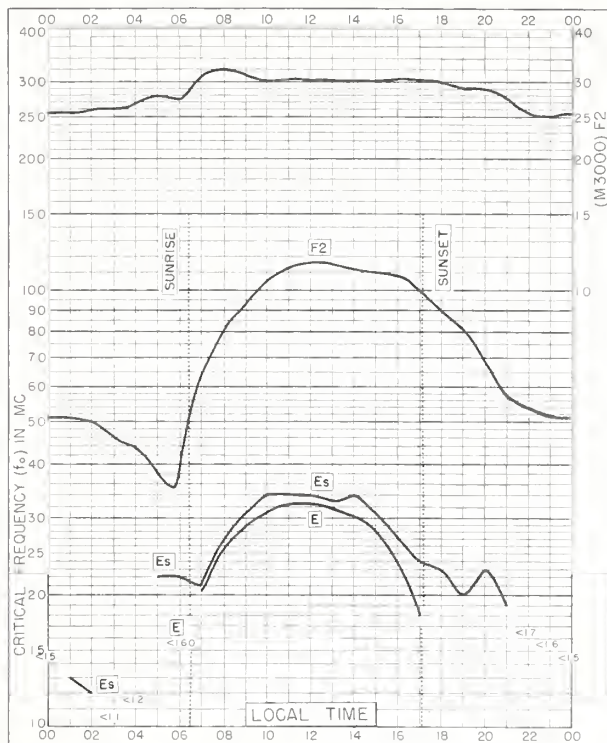






Fig. 113. SLOUGH, ENGLAND  
51.5°N, 0.6°W SEPTEMBER 1959

NBS 503

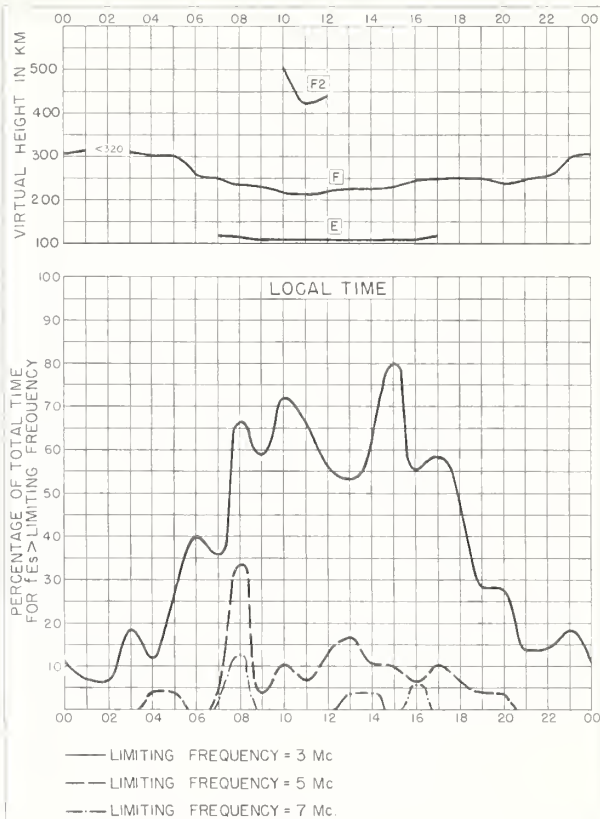


Fig. 114. SLOUGH, ENGLAND SEPTEMBER 1959

NBS 490

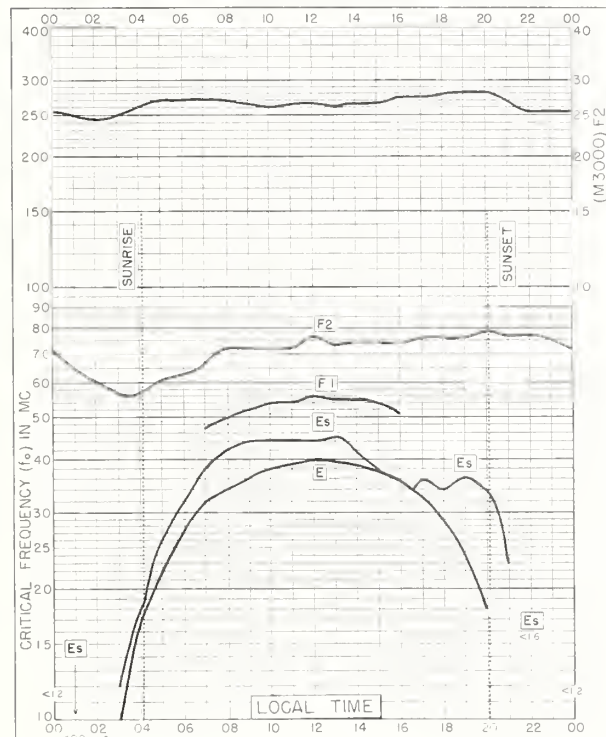


Fig. 115. SLOUGH, ENGLAND  
51.5°N, 0.6°W JULY 1959

NBS 503

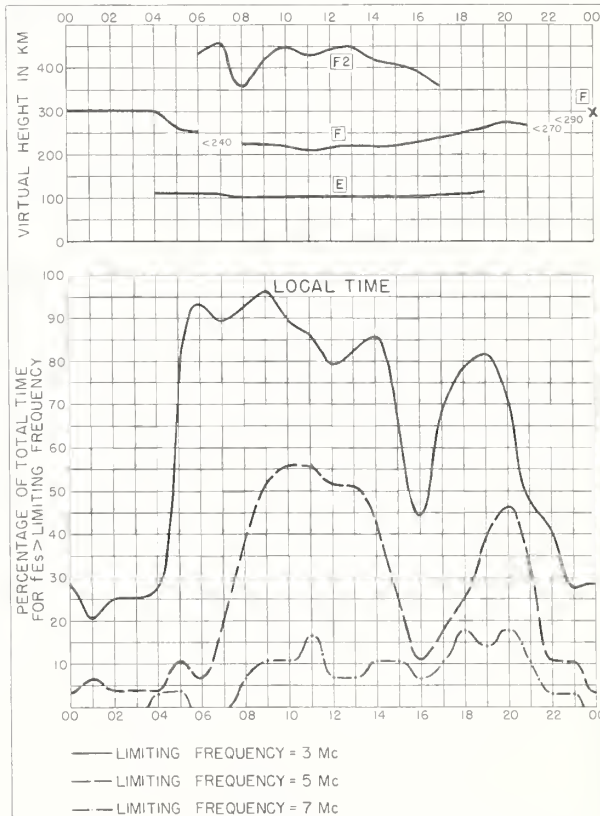


Fig. 116. SLOUGH, ENGLAND JULY 1959

NBS 490

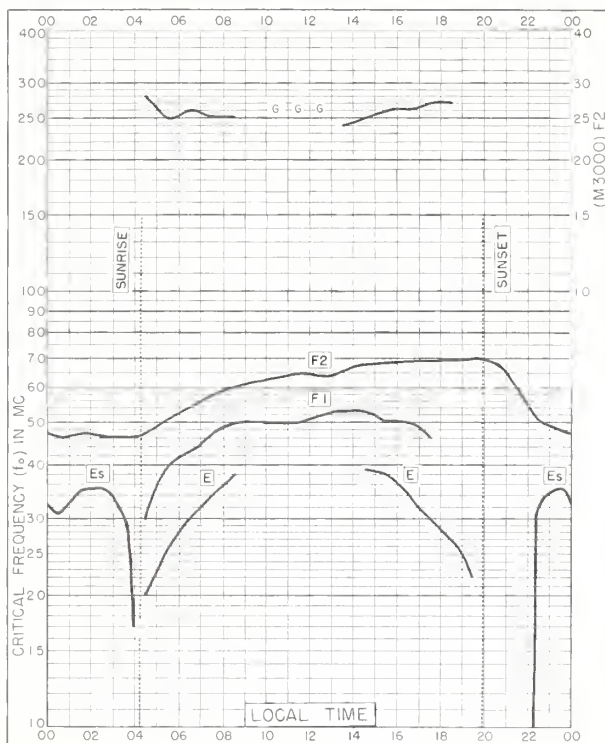


Fig. 117. WINNIPEG, CANADA  
49.9°N, 97.4°W

JULY 1959

NBS 435

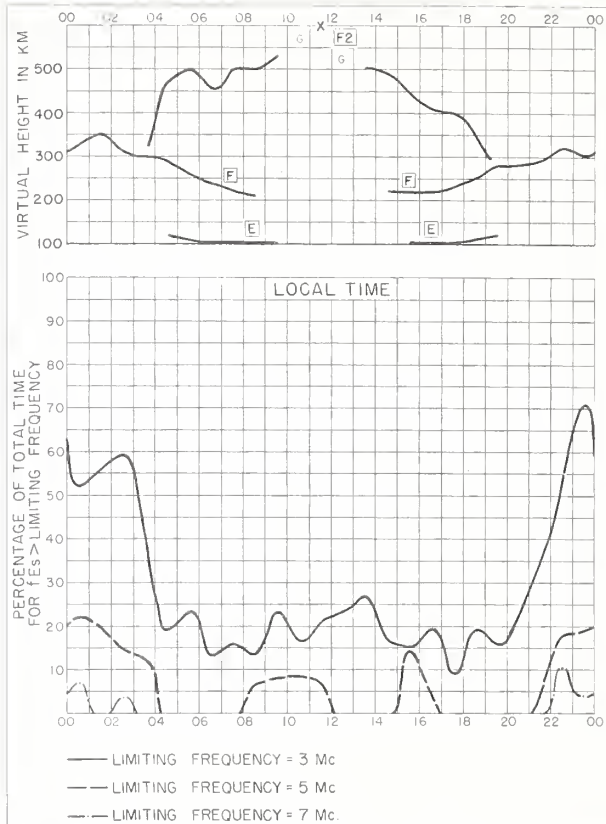


Fig. 118. WINNIPEG, CANADA

JULY 1959

NBS 430

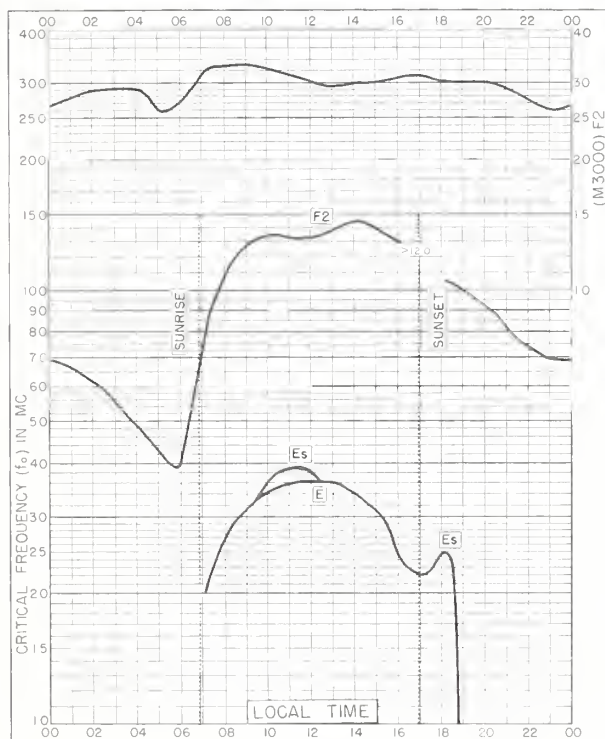


Fig. 119. CONCEPCION, CHILE  
36.6°S, 73.0°W

MAY 1959

NBS 504

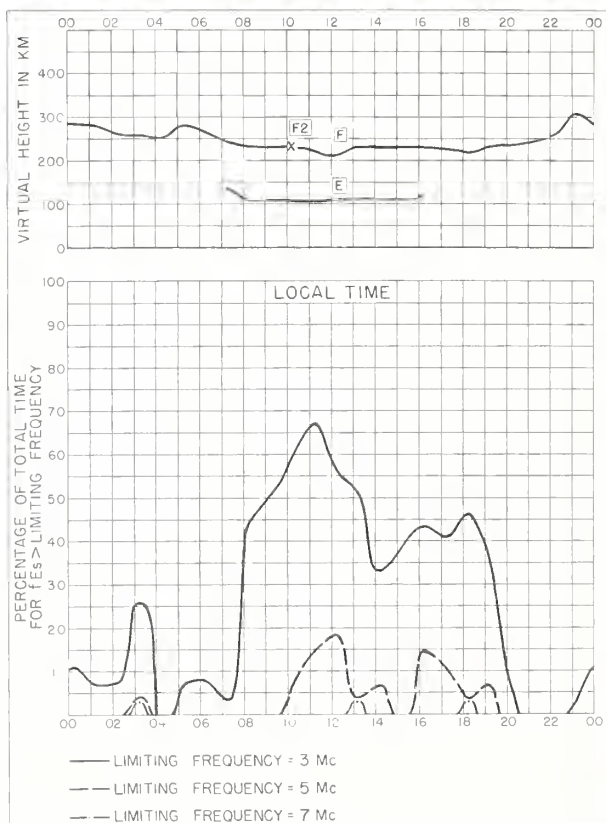


Fig. 120. CONCEPCION, CHILE

MAY 1959

NBS 430



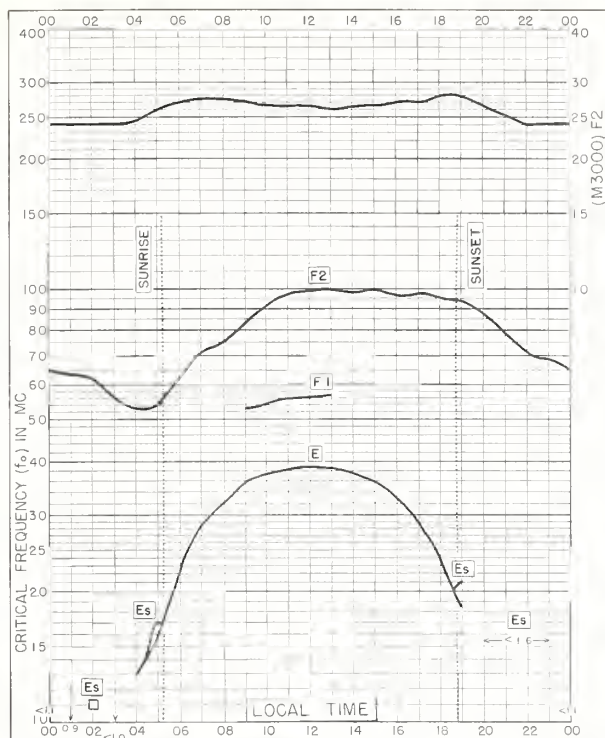


Fig. 121. SLOUGH, ENGLAND  
51.5°N, 0.6°W

APRIL 1959

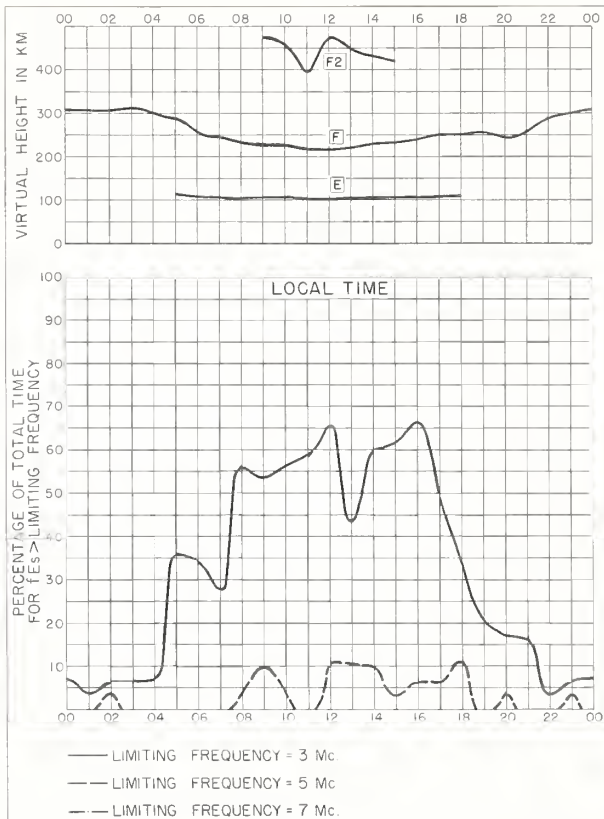


Fig. 122. SLOUGH, ENGLAND

APRIL 1959

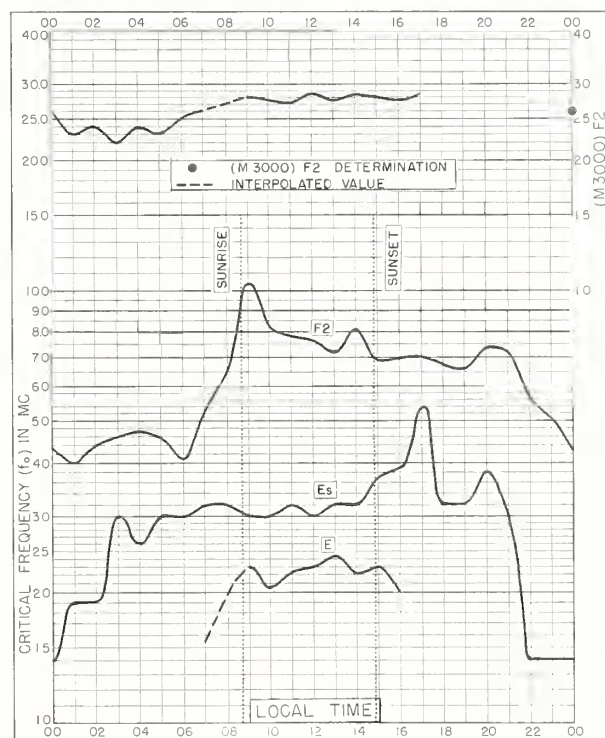


Fig. 123. SVALBARD, NORWAY  
78.2°N, 15.7°E

OCTOBER 1958

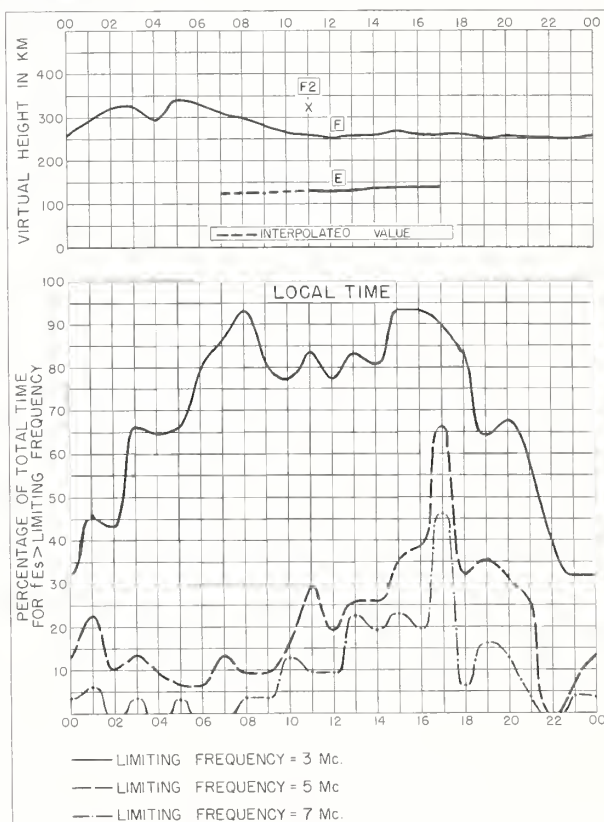
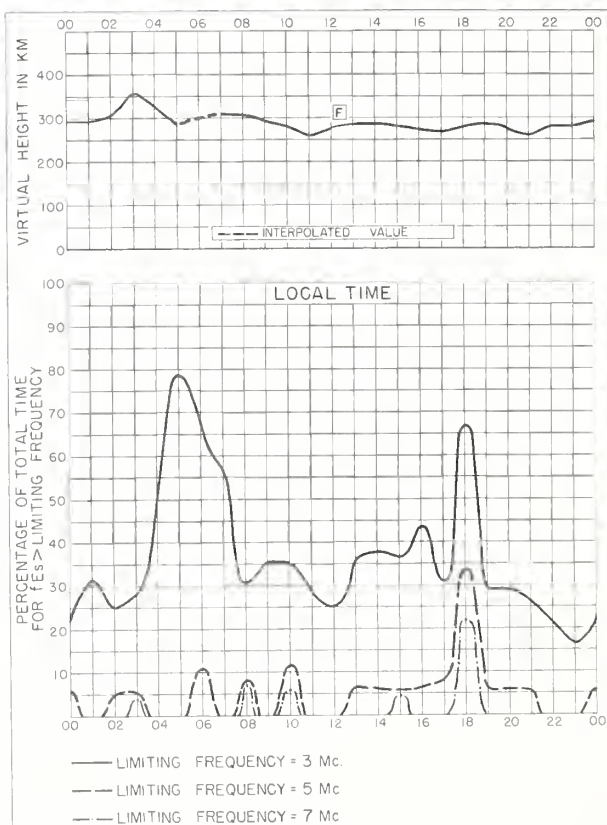
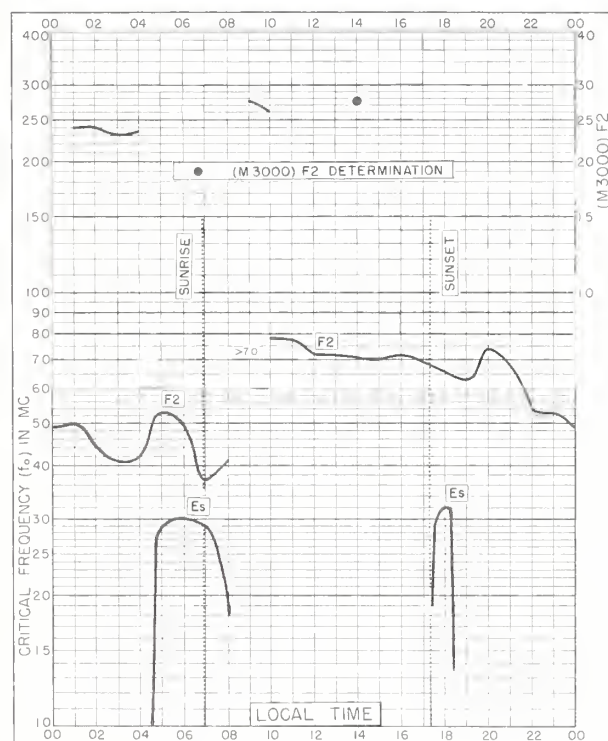
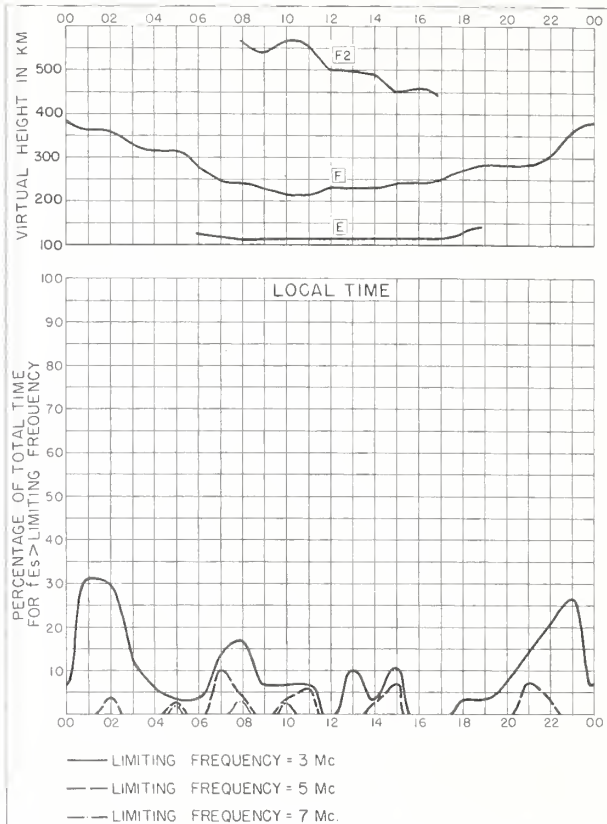
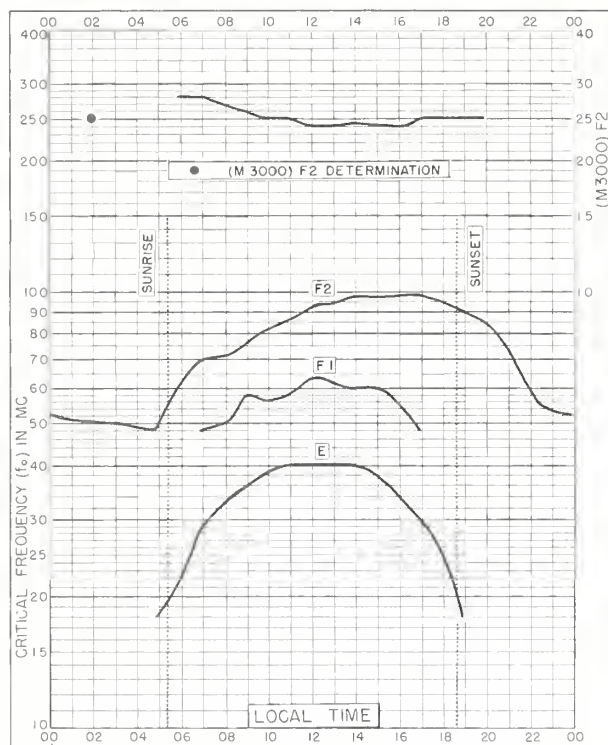


Fig. 124. SVALBARD, NORWAY

OCTOBER 1958



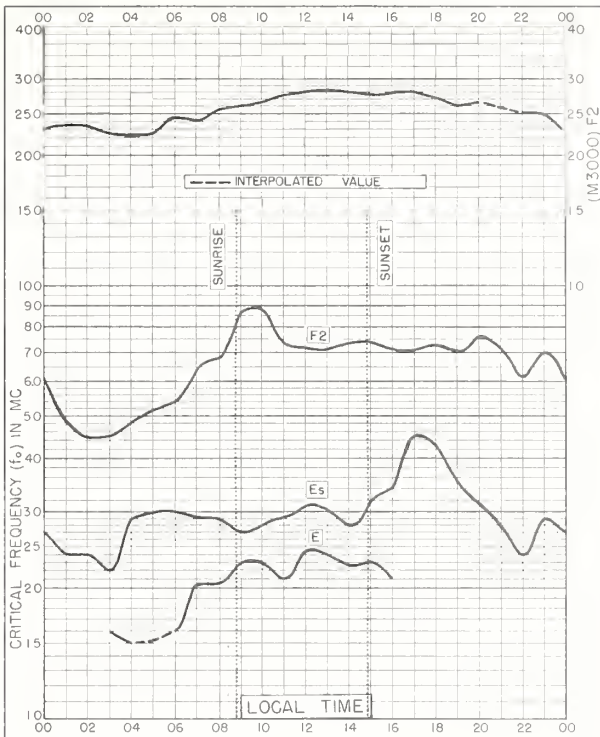


Fig. 129. SVALBARD, NORWAY  
78.2°N, 15.7°E

OCTOBER 1957

NBS 501

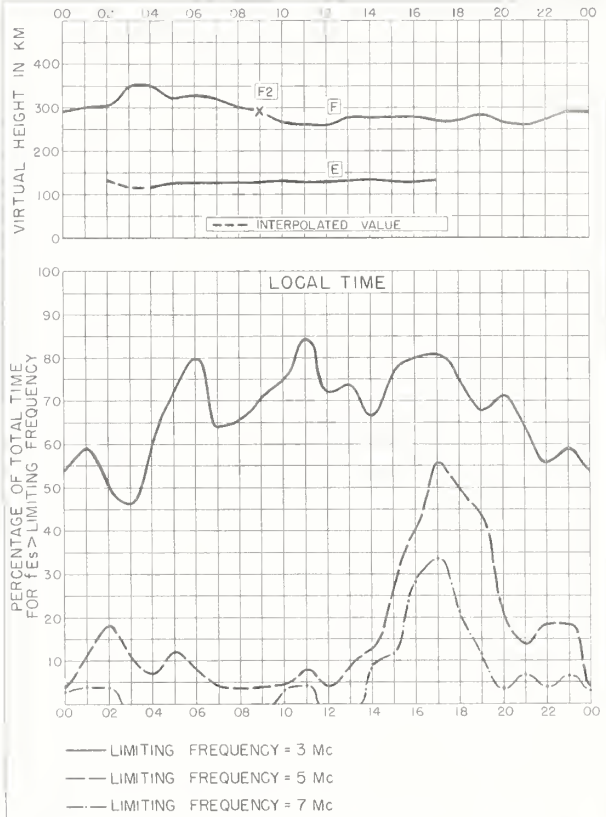


Fig. 130. SVALBARD, NORWAY

OCTOBER 1957

NBS 490

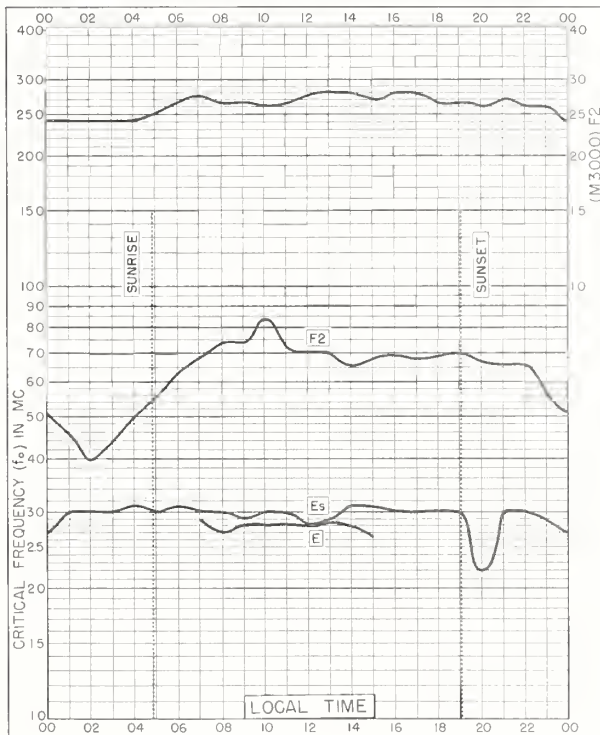


Fig. 131. SVALBARD, NORWAY  
78.2°N, 15.7°E

SEPTEMBER 1957

NBS 501

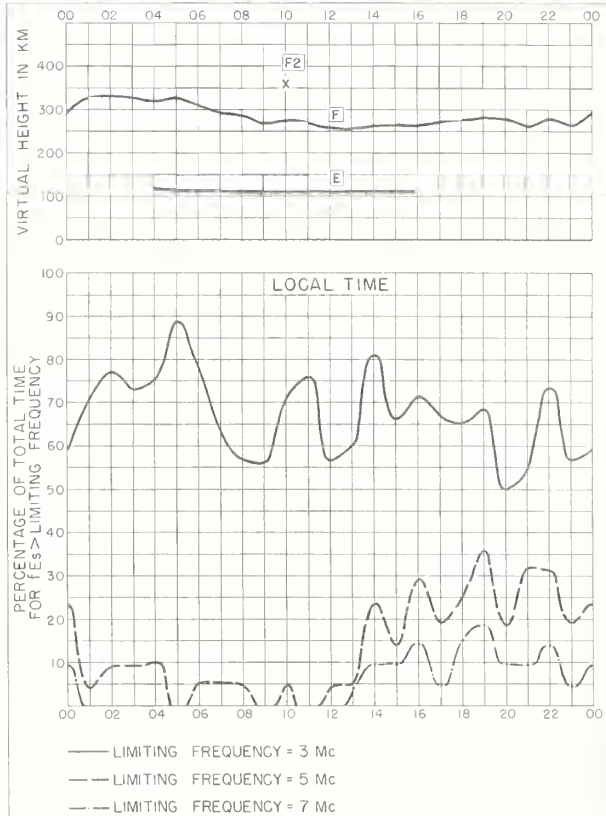


Fig. 132. SVALBARD, NORWAY

SEPTEMBER 1957

NBS 490



Al

Be

B

B

B

C

C

C

C

D

E

Index of Tables and Graphs of Ionospheric Data  
in CRPL-F208 (Part A)

	<u>Table page</u>	<u>Figure page</u>
Akita, Japan		
May 1961 . . . . .	5	25
Baguio, P. I.		
May 1961 . . . . .	5	27
Brisbane, Australia		
May 1961 . . . . .	6	28
Buenos Aires, Argentina		
May 1960 . . . . .	8	35
Byrd Station		
November 1959 . . . . .	9	39
Capetown, Union of S. Africa		
May 1961 . . . . .	6	29
Christchurch, New Zealand		
May 1961 . . . . .	6	30
Churchill, Canada		
May 1961 . . . . .	3	19
Concepcion, Chile		
May 1960 . . . . .	8	35
May 1959 . . . . .	10	42
De Bilt, Holland		
May 1961 . . . . .	3	20
Dourbes, Belgium		
May 1961 . . . . .	3	20
May 1960 . . . . .	7	32
Formosa, China		
May 1961 . . . . .	5	26
Graz, Austria		
May 1961 . . . . .	4	22
Hobart, Tasmania		
May 1961 . . . . .	6	30
Huancayo, Peru		
July 1961 . . . . .	1	13
June 1961 . . . . .	1	15
Ibadan, Nigeria		
May 1960 . . . . .	7	33
Johannesburg, Union of S. Africa		
May 1961 . . . . .	6	28
Juliusruh/Rügen, Germany		
May 1960 . . . . .	7	31
Kiruna, Sweden		
May 1961 . . . . .	2	16
La Paz, Bolivia		
May 1960 . . . . .	8	34



Index (CRPL-F208 (Part A), continued)

	<u>Table page</u>	<u>Figure page</u>
Lindau/Harz, Germany		
May 1960 . . . . .	7	31
Lulea, Sweden		
May 1961 . . . . .	2	17
Lycksele, Sweden		
May 1961 . . . . .	2	18
Maui, Hawaii		
May 1960 . . . . .	7	33
Mundaring, W. Australia		
May 1961 . . . . .	6	29
Nurmijarvi, Finland		
May 1961 . . . . .	2	18
Ottawa, Canada		
May 1961 . . . . .	4	23
April 1958 . . . . .	11	44
Pruhonice, Czechoslovakia		
May 1961 . . . . .	3	21
Resolute Bay, Canada		
May 1961 . . . . .	1	15
Rome, Italy		
May 1961 . . . . .	4	24
St. John's, Newfoundland		
May 1961 . . . . .	4	22
Sao Paulo, Brazil		
May 1960 . . . . .	8	34
Singapore, British Malaya		
December 1959 . . . . .	9	37
November 1959 . . . . .	9	38
October 1959 . . . . .	10	40
Slough, England		
November 1959 . . . . .	9	38
October 1959 . . . . .	10	40
September 1959 . . . . .	10	41
July 1959 . . . . .	10	41
April 1959 . . . . .	11	43
Sodankyla, Finland		
May 1961 . . . . .	2	17
Sottens, Switzerland		
May 1961 . . . . .	4	23
Svalbard, Norway		
October 1958 . . . . .	11	43
March 1958 . . . . .	11	44
October 1957 . . . . .	11	45
September 1957 . . . . .	11	45
Talara, Peru		
June 1961 . . . . .	1	14

Index (CRPL-F208 (Part A), concluded)

	<u>Table page</u>	<u>Figure page</u>
Tokyo, Japan		
May 1961 . . . . .	5	25
Townsville, Australia		
May 1961 . . . . .	5	27
November 1959 . . . . .	9	39
Tromso, Norway		
May 1961 . . . . .	2	16
December 1959 . . . . .	8	36
November 1959 . . . . .	9	37
Upsala, Sweden		
May 1961 . . . . .	3	19
Wakkanai, Japan		
May 1961 . . . . .	4	24
Washington, D. C.		
July 1961 . . . . .	1	13
June 1961 . . . . .	1	14
White Sands, New Mexico		
May 1960 . . . . .	7	32
Winnipeg, Canada		
May 1961 . . . . .	3	21
December 1959 . . . . .	8	36
July 1959 . . . . .	10	42
Yamagawa, Japan		
May 1961 . . . . .	5	26





## PART I (CONCLUDED)

Station	1960												1961											
	J	F	M	A	M	J	Jy	A	S	O	N	D	J	F	M	A	M	J	Jy	A	S	O	N	
Singapore, British Malaya						197	198	199	200	201				205	206	207								
Slough, England		207				197	198	199						205	207									
Sodankyla, Finland						197	198	199	200	201	202	203		204	205	206	207	208						
Sottens, Switzerland						198	198	199	200	201	202	203		204	205	206	207	208						
Tahiti, Society Is.	204	206																						
Talara, Peru							198	200	202	201	202	203		206	206	204	206	207	208					
Tananarive, Madagascar	204	205								201	201	203												
Thule, Greenland										201	201	203												
Tokyo, Japan	206					198	199	199	200	201	202	203		204	205	206		208						
Townsville, Australia	204	205							199	200	201	202			205	206		208						
Tromso, Norway	207									200	201	202	203		204	205	206	207	208					
Upsala, Sweden	207					197	198	199	200	201	202	203		204	205	206	207	208						
Wakkanai, Japan	206					198	199	199	200	201	202	203		204	205	206		208						
Washington, D. C.									197	197	201	202	202		203	203	205	205	207	208	208			
White Sands, New Mexico					208					201	201	202	203											
Wilkes Station		205																						
Winnipeg, Canada						197	198	199	200	201	202	203		204	205	206	207	208						
Yamagawa, Japan	206					198	199	199	200	201	202	203		204	205	206		208						

Part II of this index is on following page.





[illegible]

---

## CRPL Reports

[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

### *Daily:*

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.  
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

### *Weekly:*

CRPL—J. North Atlantic Radio Propagation Forecast.  
CRPL—Jp. North Pacific Radio Propagation Forecast.

### *Semimonthly:*

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

### *Monthly:*

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499—, monthly supplements to TM 11—499; Dept. of the Air Force, TO 31—3—28 series).  
On sale by Superintendent of Documents. Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.  
(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

### *Catalog of Data:*

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

---

### *Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:*

NBS Circular 462. Ionospheric Radio Propagation. \$1.25.  
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.  
NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 megacycles. 30 cents.  
NBS Circular 582. Worldwide Occurrence of Sporadic E. \$3.25.

These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

### *Selected Technical Notes of the National Bureau of Standards:*

NBS Tech. Note 2. PB151361. World Maps of F2 Critical Frequencies and Maximum Usable Frequency Factors. \$3.50. PB151361-2. \$3.50.  
NBS Tech. Note 13. PB151372. Technical Considerations Leading to an Optimum Allocation of Radio Frequencies in the Band 25 to 60 Mc. \$2.50.  
NBS Tech. Note 18. PB151377. Radio Noise Data for the IGY. \$2.50.  
18-2. PB151377-2. Quarterly Radio Noise Data (Mar.-May 1959). \$1.00.  
18-3. PB151377-3. (June-Aug. 1959). \$1.00.  
18-4. PB151377-4, etc. (Sept.-Nov. 1959). \$1.50.  
NBS Tech. Note 31. PB151390. An Atlas of Oblique-Incidence Ionograms. \$2.25.  
NBS Tech. Note 40-1. PB151399-1. Mean Electron Density Variations of the Quiet Ionosphere, 1: March 1959. \$1.25.  
40-2. PB151399-2, etc. 2: April 1959. \$1.25.

These Technical Notes are on sale by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Order by PB number.

---

